

Farmers Spend \$1.1 Billion to Fertilize 123 Million Acres in 1954, Special Census of Agriculture Report Shows

WASHINGTON—U.S. farmers spent nearly \$1.1 billion for about 19 million tons of commercial fertilizer and applied it to almost 123 million acres in 1954, date of the last census of agriculture, according to a special fertilizer and lime report issued recently by the Bureau of the Census and U.S. Department of Agriculture. About 4 million of those acres comprised improved pasture, other than cropland pasture. The other 119 million acres comprised cropland and represented more than one fourth of the total cropland in the U.S.

In 1954 fertilizer was applied to 11.5 million acres of corn, 11 million acres of wheat, 9.7 million acres of cotton, 6.3 million acres of fruits, vegetables and potatoes and 3 million acres of hay and cropland pasture.

About half the acreage fertilized in 1954 was in the Corn Belt, Great Plains and western states. About two decades ago these areas accounted for only one sixth of the fertilizer used.

Expenditure for fertilizer in 1954 totaled \$21.4 million in the New England states, \$70.4 million in Middle Atlantic, \$228.2 million in East North Central, \$162.7 million in West North Central, \$261.1 million in South Atlantic, \$135.5 million in East South Central, \$78.9 million in West South Central, \$32.1 million in Mountain

states and \$88.9 million in the western states.

The report notes that the quantity of fertilizer used was greatest in the cotton type-of-farming area, followed in order by feed grain and livestock, dairy, fruit, truck and mixed farming and general farming areas. These five areas accounted for more than 80% of fertilizer consumed in 1954.

More than 30% of the fertilizer was used on corn and about one third of that used on corn was in the feed grain and livestock type-of-farming area. Even in the cotton area nearly as much fertilizer was used on corn as on cotton.

The average amount of fertilizer used per acre fertilized was higher for tobacco than for any other selected crop for which census data were obtained.

Data collected for 20 states show that 7.5% of all crop and pasture land on irrigated farms was fertilized at an average rate of 349 lb. an acre. For non-irrigated farms in the same area, 4.8% of the crop and pasture land was fertilized at an average rate of 205 lb.

Except in the South farmers in the higher economic classes generally fertilized or limed a higher percentage of their acreage of crops and cropland pasture than those in the lower

(Continued on page 25)

Fertilizer Use on Specified Crops, 1954

	% Acres Fertilized	Tons Used	Pounds per Acre
Corn	60	6,017,805	259
Cotton	55	1,827,348	374
Tobacco	97	773,320	1,347
Sugar beets	90	48,702	336
Fruits, vegetables and potatoes	68	2,680,296	850
Wheat	29	1,064,104	191
Other crops, except hay	31	285,984	199
Hay and cropland pasture	25	3,521,453	259
All crops and cropland pasture	10	2,000,860	302
Improved pasture	30	18,219,672	308
All crops and pasture	24	649,245	304
	14	10,953,360	309

Latest Research Reports Heard at Pacific Northwest Farm Chemical Conference

PORTLAND, ORE.—“Granulated insecticides of this atomic age make up a relatively new and increasingly popular physical type with demonstrated advantage in a number of special applications where fine particle size is unnecessary or undesirable.”

This was a statement by E. L. Gooden, representative of the USDA's entomology research branch of the agricultural research service, Beltsville, Md., during one of the feature talks of the fourth annual Pacific Northwest agricultural chemicals industry conference held here Jan. 21-25.

“Progress has been made in the improvement of granular specifications through closer standardization of ingredients and elimination of superfluous tests,” Mr. Gooden told the more than 100 industry specialists in attendance.

He said that major problems confronting further development of

this material class includes diminishment, control and evaluation of dustiness; evaluation of entirely new or insufficiently listed carriers; further insurance against chemical instability and phytotoxicity and anticipation of stock requirements to allow adequate curing time.

Industry and state college insect researchers spent the five days hearing special outside speakers and members of their own industry giving progress reports of research work presently in progress.

The major part of one afternoon was devoted to reports by three entomologists who told of work done to control the onion maggot which annually costs Oregon, Washington and Idaho thousands of dollars damage to onion bulbs.

Dr. H. H. Crowell, Oregon State college entomologist, Corvallis, reported that endrin and malathion were about equally effective in protecting Lake Labish, Ore., onions from maggot attack. He indicated dieldrin and heptachlor were less effective.

Dr. A. J. Howitt of the Western Washington experiment station, Puyallup, told of incomplete results of several experiments conducted to find methods of controlling the onion maggot. In those aimed at controlling the maggot on onions grown to maturity, endrin wettable powder used as a furrow treatment at the rate of 1 and 2

(Continued on page 25)

Corn Borer Threat Shows Decline in Midwest States

Danger Grows in East; U.S. Count Down from Year Ago

— See Map on Page 28 —

WASHINGTON, D.C.—The potential 1957 crop of European corn borers found in U.S. corn fields last fall is smaller than the previous year's but still large enough to threaten economic damage, according to state-federal surveys. The North Central states showed reduced numbers of this pest, while a build-up of the insect's numbers occurred in Eastern states, the U.S. Department of Agriculture has reported.

Sample counts of live borers—source of devouring hordes that may hatch during the coming year if weather is favorable—were made by

(Continued on page 28)

USDA Decides on No Quarantine for Witchweed Pest

WASHINGTON—Concern over the possibility of quarantine regulations over the movement of corn, corn seed, earth and a multiplicity of potentially infested products from witchweed-infested areas of North and South Carolina, evaporated last week following an open session in which this matter was discussed at USDA.

Witchweed, which has been described as an insidious under-soil pest which attaches itself to corn as a host plant and thereby spreads to other generations, was the subject of an open hearing at the USDA Agricultural Research Service last week to ascertain whether or not to quarantine the infested areas. The objective was to prevent spread of this threat to the corn belt area of the nation.

The session here was the object of heated attack by North Carolina congressmen who protested against any quarantine of corn or corn-infested area shipments

(Continued on page 28)

Chemical Progress Week Set for April 8-12

WASHINGTON—The fourth annual Chemical Progress Week has been scheduled for April 8-12, 1957, it was announced here Jan. 31 by the Manufacturing Chemists Assn., sponsor of the event.

USDA Reports on 1956 Results With Two Systemic Insecticides on Cotton Pests

WASHINGTON, D.C.—Results of experiments with systemic insecticides Thimet and Bayer 19639 have been reported in a USDA bulletin just released. The results, according to USDA, were gathered after farmers in 13 cotton-producing states, co-operating with the State experiment stations or state extension services, planted several thousand acres with treated seed during the 1956 season.

The report indicated that thrips, aphids and spider mites were controlled for 4 to 6 weeks after plants emerged. Fair to good control was also obtained for a limited time against cutworms, the cotton leaf perforator, flea beetles, leaf miners, darkling beetles, false wireworm adults, and the brown cotton leafworm. At some locations, the cotton fleahopper was controlled for 4 weeks,

and in some fields there was only minor white-fly damage. Effect on the boll weevil was variable, USDA says.

"Germination was reduced 35 to 40% in some fields," it went on. "In others, there was no effect. Fruiting also varied, depending somewhat on soil conditions. Some growers reported an increase in the height of plants. A survey conducted in central Texas shows 83% of the farmers satisfied with the overall results.

"Thimet was slightly more effective in controlling thrips, and Bayer 19639 was slightly better in controlling aphids, based on infestation records, plant heights, and bloom counts. With other insects, both chemicals had about the same effect.

"Seeds are mixed with the chemical

in a specially designed machine a few days to a few weeks before planting. Activated carbon is used as a carrier. Methyl cellulose or other stickers are added."

The idea of treating seeds to prevent subsequent insect infestation in a growing plant was first demonstrated in 1949 by William Iglinsky, entomologist, at the ARS Basic Research Laboratory for Cotton Insects, College Station, Texas. Previously, systemic insecticides were applied to the foliage or to the soil and absorbed into the sap stream.

Both Thimet and Bayer 19639 are highly toxic, and can be purchased only after they have been mixed with the seeds. Cost of this adds approximately \$3 per acre, but it usually makes unnecessary the application of from 2 to 4 sprays often put on cotton foliage early in the growing season, USDA points out.

Research is under way for other

types of carriers and methods of application that might extend control periods longer than 4 to 6 weeks. Systemic seed treatment is also being tried against insects on alfalfa, cabbage, tobacco, citrus and deciduous fruits, potato and seed pieces, onion sets, snap and lima beans and other crops.

North Central Branch of Entomologists Meets in Des Moines, March 27

DES MOINES, IOWA—The 12th annual meeting of the North Central Branch, Entomological Society of America, is scheduled to be held at the Savary Hotel at Des Moines, March 27-29. A crowd of some 40 midwestern entomologists are expected to be in attendance at the three-day meeting.

Highlights of the conference will include the following invitational addresses at the opening general session: "What is that Larva?" by Alvah Peterson; "Systemic Insecticides for the Control of Livestock Pests," by R. C. Bushland, and "Evolution of Insect Flight," by L. E. Chadwick.

Other highlights include panel discussion of the spotted alfalfa aphid on March 27, and a section program on insecticide residue problems March 29.

Section meetings will cover forest insects, livestock insects, cereal and forage crop insects, systemics, fruit and truck crop insects and physiology and toxicology.

Weather Slows Farm Work in Mid-South

MEMPHIS—Rainy and cold winter weather kept most farmers of the Mid-South indoors last week except for a few who were able to begin planting seedlings. Extension officials in Arkansas, Mississippi, Missouri and Tennessee said in their weekly reports that "most of the farmers marked time" as rain and weather stopped field work.

Mississippi and Tennessee farmers in some areas were able to begin planting seedlings and considerable planning was completed for the 1957 crops, officials said.

Mississippi Agricultural Extension Service officials said heavy rains during the week were beneficial to winter grazing crops. They pointed out that freeze damage and boggy lands have kept many farmers from making full use of grazing crops.

Despite the unfavorable weather interest is high in home gardening, said K. H. Buckley, associated extension horticulturist. He pointed out gardeners are getting their lawns in shape for early spring vegetable crops.

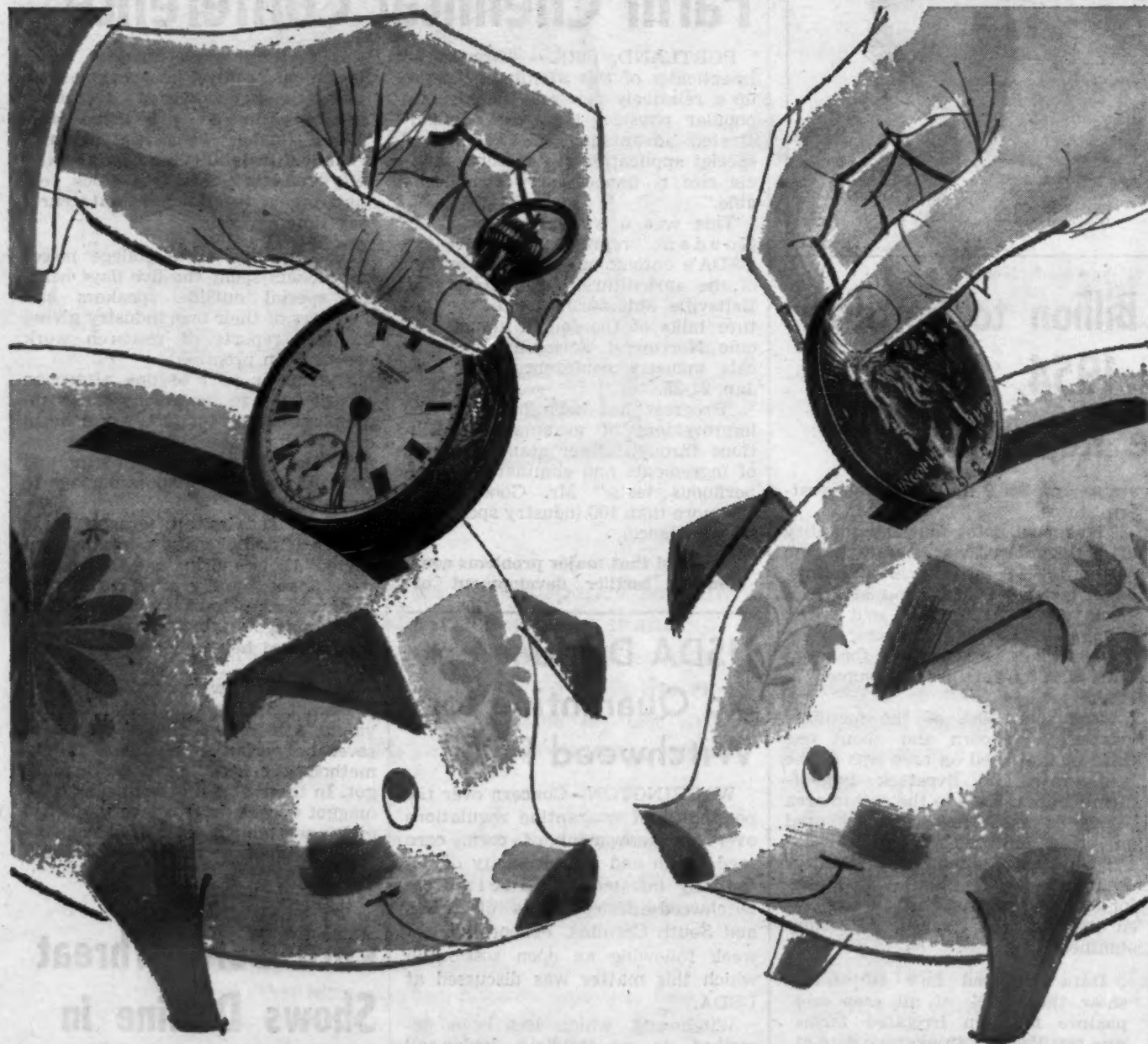
Arkansas farmers marked time in rainy, cold weather, waiting the planting season.

Rainfall so far this year has been a little below normal in most areas. However, fields that have been turned over for the most part received some good soakings and "weathering" this winter.

Extension Service specialists in forestry and dairying reported increased activity among West Tennessee farmers last week. James Warmbrod, forestry specialist, said 30 million trees, mostly loblolly pines, have been grown at the state nursery at Pinson and are being planted by farmers this month.

Dow Appointment

MIDLAND, MICH.—Tyrone Gillespie, assistant to the president, has been given added responsibilities as coordinator of overseas activities of the Dow Chemical Co., Leland Doan, president, has announced. Mr. Gillespie will maintain contact with Dow research, technical service and development, manufacturing, sales and other segments of the company in coordinating their relationships with individuals, companies and governments abroad, Dr. Doan said.



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Keith Landsburg Heads Michigan Pesticide Organization

EAST LANSING, MICH.—Keith Landsburg, Fennville (Mich.) Milling Co., will head the Michigan Insecticide-Fungicide Institute for the coming year, following his election at the Institute's annual conference at Michigan State University. He succeeds Clarence Perkins, of McBride.

George Shane, of Watervliet, is the new first vice president, and Anton Regner, Dearborn, second vice president. Robert Van Antwerp, Sparta, was elected secretary-treasurer. Newly-elected board members include Anton Regner, Dearborn; C. H. Roach, Grand Rapids, and Earl Steimle, Sodus.

More than 100 dealers and managers of insecticides and fungicides attended the Kellogg Center event.

Kansas Applicators and Dealers to Meet

MANHATTAN, KANSAS—A one-day conference of Kansas pesticide dealers and custom operators is scheduled to be held in Williams Auditorium, Umberger Hall, Kansas State College here Tuesday, Feb. 26, according to an announcement by Chris C. Burkhardt, assistant professor of entomology.

The conference is sponsored by the department of entomology in cooperation with the departments of agronomy, agricultural engineering, and botany and plant pathology.

"Although the program is primarily directed toward dealers of pesticides and custom ground and aerial applicators, the meeting will also be open to county agents, county weed supervisors, and anyone interested in weed and insect control," he adds. The latest research will be discussed briefly and talks will encourage the proper use of pesticides.

Weed and insect control recommendations will also be given.

Dealers and custom operators from all portions of Kansas and some from adjoining areas are expected to be present.

BUYS ORDNANCE FIRM

LOS ANGELES—American Potash & Chemical Corp. has purchased National Northern Corp., which will carry on the ordnance and explosives research, development and testing business known as the National Northern Division of National Fireworks Ordnance Corp. at West Hanover, Mass., according to an announcement by Peter Colefax, president of American Potash. Activities carried on by National Northern's staff of 50 scientists and technicians include laboratory studies, pilot production and field testing of explosives, pyrotechnics, propellants, detonators, fuses and related items for the military services and commercial customers.

51 Million Acre Corn Crop Base May Be Approved

Compromise Underway To Set Base with Soil Bank Provision

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—A corn base of 51 million acres, with provision for 15% go into the soil bank, appears to be in the making here last week. August H. Andresen (R., Minn.) House Agriculture Committee minority leader, introduced a bill which would fix a 51 million acre base for corn under provisions of the Act of 1938 as amended in 1949. It would become a fixed minimum base acreage for the corn crop as it exists for wheat and cotton.

The Minnesota congressman would fix price support for corn at between 75 to 90% of parity for the soil bank period and then return corn to the old acreage allotment base as a base commodity at the sliding scale provisions of the act of 1949.

Sen. Everett M. Dirksen (R., Ill.) would go along with Rep. Andresen but he would fix the price support level for corn at between 70 to 90% of its parity, and require, as would Rep. Andresen, compliance with corn base acreage allotments as a condition of soil bank participation and price support.

Neither of these bills is the administration proposals. At a Senate Agriculture Committee meeting last week there was an unusual colloquy between Sen. Hubert Humphrey (D., Minn.) and the secretary of agriculture.

It seemed that there was an air of compromise which would lead to these possibilities: (1) 70% of parity support for corn for this and succeeding crop years while the soil bank is in existence, (2) a 51 million acreage base for corn for the soil bank and (3) a decision that not less than 15% of a corn acreage base allotment would be removed from the corn acreage base.

The GOP administration of USA fears a huge hog production in 1957 which will mean low swine prices prior to election that year. USA thus will head into higher prices for feed grains through one device or another in this coming crop year in order to halt a big expansion in hog production.

Trade sources here believe that this conclusion is correct and that it will mean that corn will be at least 15¢ bu. higher. And in addition there is the prospect that USDA will fix a floor under the corn price for the country for non-cooperators some break-even point.

For the other feed grains, in the event that these forecasts are achieved, it seems probable that corn will still look like the big sales potential for the plant food and petal chemical industry this year.

H. J. Baker & Bro. Partner Retires

NEW YORK—H. J. Baker & Bro. 600 Fifth Ave., New York, announced the retirement of William H. English, Jr., as a partner as of Dec. 31. The firm, one of the oldest in the feed and fertilizer fields, continues under the same trade name.

FLORIDA TONNAGE

TALLAHASSEE, FLA.—Florida fertilizer consumption during December totaled 191,638 tons, according to the Florida Department of Agriculture. The figure includes 132,393 tons of mixed goods and 59,245 tons of materials.

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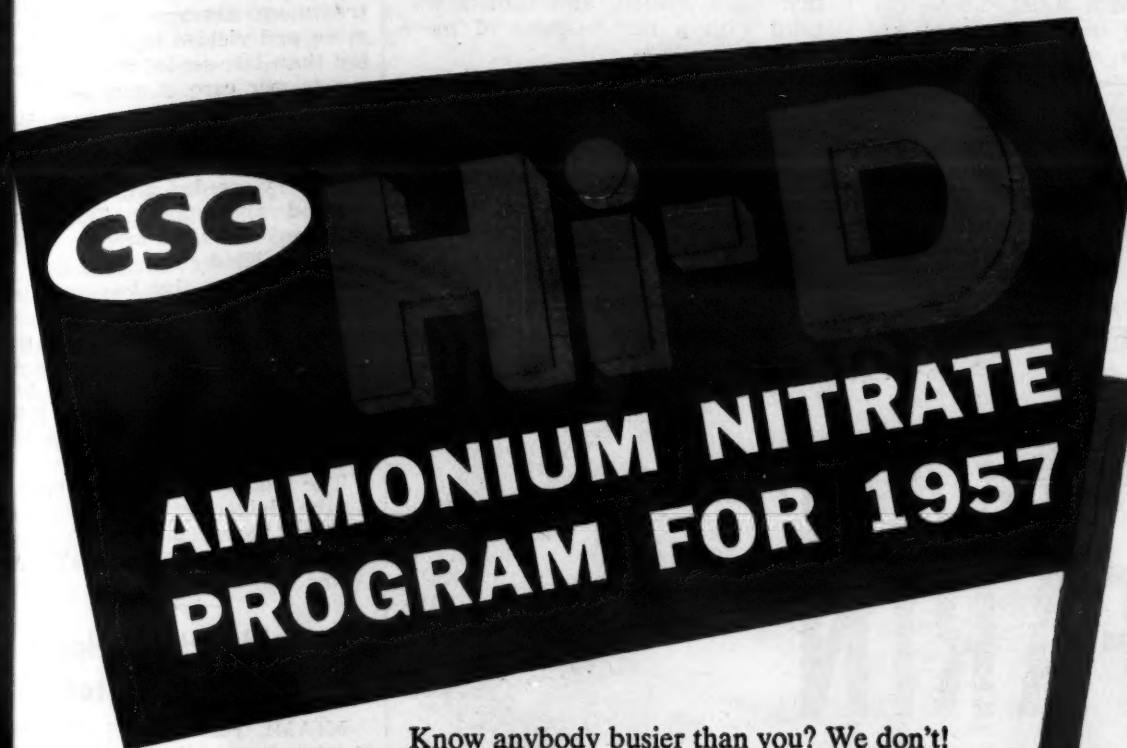
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Fertilizer Sales By Co-ops Show Gain in 1954-55

WASHINGTON—Farmer cooperatives did a gross business in fertilizer of \$396,877,000 in fiscal 1954-55, according to a report issued Jan. 25 by the U.S. Department of Agriculture. This compares with a fertilizer gross by co-ops in 1953-54 of \$372,096,000.

The net fertilizer business, after adjusting for duplication to eliminate business between cooperatives, was \$249,898,000 in 1954-55, compared with \$232,117,000 the previous year.

In 1954-55 there were 3,810 cooperative associations handling fertilizer, a gain from 3,621 the previous fiscal year.

In 1954-55 a total of 1,874 associations did a gross of \$44,731,000 and a net after adjustment of \$31,857,000 in agricultural chemical sprays and dusts. The previous fiscal year 1,689

associations did a gross of \$37,863,000 and a net of \$26,583,000 in these products.

The number of cooperatives in 1954-55 was 9,887 compared with 10,058 in the preceding year. The decrease reflects the continuing trend toward consolidation among cooperatives. Some of these cooperatives, however, had ceased operations earlier. This should have been recorded in prior years, but their discontinuance was not disclosed before the current survey.

The number of memberships in farmer cooperatives amounted to 7,602,140 compared with 7,607,660 in 1953-54—a decrease of less than one-tenth of 1%. This is less than the more than 2% average yearly decrease in number of farms occurring between 1950 and 1954, USDA said.

The West North Central region—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas—again led in the number of cooperatives, with 3,890. These cooperatives had memberships of almost 2.3 million and did a net busi-

ness valued at more than \$2.4 billion. Second in number of cooperatives was the East North Central region—Ohio, Indiana, Illinois, Michigan and Wisconsin. The 2,026 cooperatives in this region had memberships of a little more than 2 million and led all regions in the business they transacted with a net total of slightly less than \$2.5 billion.

Minnesota still had the largest number of cooperatives—1,296. Next in number of cooperatives was Wisconsin with 808, followed by Iowa with 703. Illinois continued to lead in number of memberships, with 584,470. Minnesota ranked second with 573,020, and Missouri was third with 433,720.

California led the nation in value of business transacted. With 451 cooperatives and a membership of 121,010, California had total business with a net value of slightly more than \$829 million. Minnesota was second with a net business valued at more than \$645 million, and Illinois was third with a net business of more than \$620 million.

Early Seeding, Fertilization Boost Barley Yields

ST. PAUL—Barley needs to be seeded early and fertilized to bring the best returns. That's the conclusion reached by Charles Simkins, extension soils specialist, Ermond Hamans, extension farm management specialist, and Spence Cleland, farm management specialist at the University of Minnesota, from a series of malting barley demonstrations in 14 Red River Valley counties during the past summer.

A group of farmers, in cooperation with their county agents, compared early seeding, seed treating, fertilizing and chemical weed and insect control with plots where untreated barley was seeded late, unfertilized and received no spraying.

The plots that were seeded early and received other recommended treatments averaged 9-12 bu. per acre more and yielded higher-quality barley than late-seeded plots that did not get proper care. Net return was between \$6 and \$14 more for the high yielding plots. Kindred and Traill barley were used in all the comparisons.

Early-seeded, properly-fertilized and sprayed Traill barley averaged 49 bu. per acre for 10 of the counties. Kindred averaged 45 bu.

Traill barley that was seeded late, unfertilized and untreated averaged 37 bu. per acre—12 bu. less than plots handled in the recommended manner. With Kindred, the plots that did not get recommended care yielded 36 bu. or 9 bu. less than the correctly handled plots.

The records were kept for the plots by the University of Minnesota Agricultural Extension Service. The study was financed by Minnesota's Brewer's Assn.

South Florida Dealers Hear Garden Editor

MIAMI, FLA.—The South Florida Garden Supply Dealers Assn., which was formed in November of last year, held its regular monthly meeting in Miami recently. Nixon Smiley, garden editor of the Miami Herald, was a guest speaker.

Robert Billet, representative of the O. E. Link Co., demonstrated a new type turf sprayer. Douglas Knapp, assistant Dade County agent, spoke on current pest problems and best means of combatting them. Mr. Knapp was appointed program chairman and publicity chairman for the association.

The group decided to postpone formal adoption of a proposed charter until it had been given more study and re-drafted. In the meantime, order to speed up activities, additional officers and a board of directors were elected. At the first organizational meeting, only three officers were named. They were C. Pinkerman, Garden & Pet Supply, Fort Lauderdale, president; M. Lou Bordon, Normandy Isle Seed Store, Miami Beach, secretary; and Wood Glover, Hector Supply Co., Miami, treasurer.

At the January meeting, B. Mercer, Mercer Seed Co., Miami, was elected vice president. Board members elected were Joe Toole, Coral Way Garden Center, Miami; Lee Vogel, Vogel's Garden Supply, Fort Lauderdale; Gene Ennemose, Gene's Seed Store, Miami; Dick Carson, Hollywood Garden & Pet Supply, Hollywood; and B. B. Kersey, Kersey Horticultural Supply, Miami.

The group will meet the second Monday of each month at the Dade County Vocational Agricultural School in Miami. Membership, which started with an initial group of 25, has already passed the half-hundred mark. Enthusiasm is growing, not only in South Florida, but as a result of this organization, other groups are in the process of being formed in West Palm Beach, Jacksonville and Tampa.

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Serious Grasshopper Year Shaping Up in North Dakota

FARGO, N.D.—A potentially serious grasshopper situation is shaping up for 1957 in North Dakota, according to surveys conducted by North Dakota Agricultural College and U.S. Department of Agriculture entomologists.

Wayne J. Colberg, entomologist at the college, reports that crop-damaging grasshoppers are concentrated most heavily in a huge "threatening" area taking in almost all the western half of the state and ranging north to include most of Williams, Mountrail and Ward counties, and northeast to include all of McHenry and into Bottineau and Rolette well towards the Canadian line.

Spots within this area where the potential infestation is described as "severe" are centered in parts of Hettinger, Stark and Morton counties, in southern Mountrail and northwest McLean, and in McHenry and spilling from there into the edges of Pierce, Sheridan and McLean.

Other threatening areas are in the east central counties, including parts of Richland, Cass, Traill, Steele, Grand Forks, Nelson, Eddy and Foster. Another similar threatening area includes most of eastern LaMoure, Dickey, Ransom and Sargent counties, with a "severe" situation existing along the South Dakota line including parts of Sargent and Dickey counties. Most of the east central part of the state outside the areas just mentioned has a light infestation indicated.

Most of Towner, Cavalier and Ransom counties, and the western half of Walsh and northern Nelson have a normal outlook for hopper trouble. Another relatively good area includes most of Sioux, Emmons and parts of western Logan and McIntosh counties.

Mr. Colberg said the areas indicated as having a "light" potential population of hoppers will have local spots where control will be necessary to save crops, especially late crops such as flax. Areas with threatening populations will suffer light to moderate crop losses unless control measures are applied, with damage to be expected early in the season and again late in the growing season.

Areas with severe grasshopper populations will suffer heavy crop losses all through the growing season unless protective measures are taken.

Mr. Colberg emphasizes that, wherever grasshoppers are a problem, early control can be highly profitable. In 1956 more than 1½ million acres of cropland in North Dakota were sprayed for grasshopper control. This action by farmers saved an estimated 7 million dollars in crops, Mr. Colberg said.

Pfizer Acquires Process Patent for Allethrin

NEW YORK—A process patent has been acquired by Chas. Pfizer & Co., Inc., for a new method of manufacturing allethrin, an insecticidal compound for spray and aerosol application.

The new process, covered in U.S. Patent 2,768,967, begins with an acetone dicarboxylic acid ester which Pfizer manufactures from citric acid. Although Pfizer does not plan to produce the insecticide, company spokesmen said that the new production route will be of interest to prospective licensees seeking either another source of starting material for the insecticide, or a possible future means of producing the material more economically. The patent was issued to Dr. A. Bavely and Erich C. Schreiber of Pfizer's chemical research laboratories.

Soil Builders Award Contest Entries Asked

WASHINGTON—Farm magazine editors of the nation have been invited to submit entries for the fifth annual National Plant Food Institute's "Soil Builders Award for Editors" contest, the deadline for which is March 15, 1957.

The contest, sponsored by the Institute with the approval of the American Agricultural Editors Assn., is designed to honor editors and their staffs for their 1956 editorial contributions in the important field of building and maintaining soil fertility.

For the purpose of the contest, farm magazines are divided into two categories—those with more than 300,000 circulation and those with less than 300,000.

The winning editors and their wives, in each of the magazine categories, will be guests at the 1957 convention of the Institute, and the writers they designate will receive hand-

some plaques at the winter meeting of the American Agricultural Editors' Assn. The two winning editors will receive scrolls, signed by the board of judges, at the Institute's convention.

Judges for the contest are Robert J. Bishopp, president, National Vocational Agricultural Teachers' Assn., Inc., Powell, Wyo.; Roger Fleming, secretary-treasurer, American Farm Bureau Federation, Washington, D.C.; Nolen J. Fuqua, president, the National Association of Soil Conservation Districts, Duncan, Okla.; Wesley Hardenbergh, president, American Meat Institute, Chicago; R. H. McDougall, president, National Association County Agricultural Agents, Butler, Pa., and Herschel D. Newsom, master, the National Grange, Washington, D.C.

BANKERS SHORT COURSE

FARGO, N.D.—North Dakota Agricultural College will conduct its first agricultural short course for bank officers and employees March 11-12.

Western Agchem Group To Hear Toxicologist

SAN JOSE, CAL.—The program for the spring meeting of Western Agricultural Chemicals Assn. in the Hotel Biltmore, Los Angeles, April 2, 1957 will feature T. A. Loomis, M.D., toxicologist, associate professor, School of Pharmacology, Washington University, Seattle, who will present his movie, slides and vocal presentation of "Effects of Anticholinesterase Insecticides on the Human."

Ned Lewis, vice president, Wilbur-Ellis Co., Los Angeles, will discuss "Some Economic Aspects of the Pesticides Industry." A top industry scientist will discuss the outlook for improved pesticides, according to C. O. Barnard, executive secretary of the association.

PEACH COUNCIL TO MEET

CLEMSON, S.C.—The annual meeting of the South Carolina Peach Council will be held here Feb. 5-6.



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Wisconsin Speakers Stress Necessity for Information On Tolerances and Residues

MADISON, WIS.—All phases of insect control in field and vegetable crops were touched on at the 11th annual Insect Control Conference with industry held in Madison, Wis., Jan. 10.

About 130 representatives from industry showed up at the meeting, which is sponsored by the University of Wisconsin's entomology department.

The conference with industry scholarship of \$150 was awarded this year to Walter S. Bigley, a senior entomology student at the University of Wisconsin.

Here are some of the highlights of the various subjects covered during the conference:

E. L. Chambers, Wisconsin state entomologist, discussed Dutch elm disease control in the state. For its control, he recommends (1) sanitation, removal and destruction of elm wood to eliminate bark beetle breeding places, and (2) spraying to control the elm bark beetle. Community-wide spraying is not recommended if there are no sanitation practices, or if there is no Dutch elm disease in the area, he said.

Mr. Chambers recommended a 1% DDT spray for diseased trees and those elms within 1,000 feet of the outbreak. In following years, a dormant DDT spray should be applied between July 15 and August 15, he said.

Eldon H. Roesler, executive secretary of the Central Retail Feed Association, headed a panel which discussed dealers participating in agricultural pest control problems. He stated that feed dealers are fully aware of the value of adequate pest control and are becoming more aware of the opportunities for them in pest control. They also realize that the industry is becoming a science which requires that those dealing with pesticides have specialized knowledge. In a recent survey it was found that only a small percentage (11.1%) of dealers could offer the farmer a service for applying insecticides. Some 61% indicated they would like more help on this matter from University specialists. Others on the panel included Roy Markell, Green Bay Seed Company, and R. C. Tesch, Knauf and Tesch Co., Chilton, Wis.

K. P. Buchholtz, University of Wisconsin agronomist, told of new additions to weed control recommendations that can be expected this year. Although about the same as last year, the new chemical addition will be imino triazole for control of Canada thistle. It gives better control in early stages than 2,4-D but is not selective, he explained. Mr. Buchholtz noted that GDAA ("Randox") has been approved for use on a number of cultivated crops, and that Dalapon will be used in quackgrass control more this year. He also said that Dinitro is being used more widely for the control of annual grassy and broad-leaved weeds in corn.

R. B. Chalfant, University of Wisconsin entomology research assistant, reported that two major cabbage pests in the state—the imported cabbage worm and the cabbage looper—are developing resistance to some insecticides which had given good control previously. Included are DDT and parathion, he said. Insecticides which showed promise include Phosdrin, endosulfan, TDE, an analogue of DDT, and a mixture of DDT and parathion.

C. L. Fluke, University of Wisconsin entomologist, discussed apple maggot control and avoiding the spray residue. The Miller amendment to the Federal Food and Drug Act relating to spray residues, coupled with apple maggot resistance to DDT compli-

cates the problem, he said. This year, the apple maggot in Wisconsin was the worst it had been in the past 10 years, Mr. Fluke reported.

He stated that methoxychlor does a good job of controlling apple maggots, but to be within the 14 parts per million allowable tolerance, this spray cannot be used less than seven days before harvest. However, if DDT has been used in three earlier cover sprays for codling moth, and methoxychlor is to be used in three to six sprays for apple maggot, the time interval before harvest must be 14 days,

it was pointed out. Generally, six sprays are needed to control the apple maggot, starting July 1 and repeated every 10 days. This would bring the last spray too close to harvest of the earlier varieties, and could require the use of phosphate insecticides in the later sprays or washing to remove the excess residue.

Lorin R. Stelzer, research assistant in entomology at the University, reported studies of insecticides in orchard soils. Aldrin, dieldrin, and heptachlor look promising for curculio control in cherries, he told the conference. Chlordane, lindane, and EPN-300 were not effective, he said. Aldrin and dieldrin do not slow down tree growth and production, and they do not harm cherry flavor, he added.

Also speaking on the subject of insecticides in soils was University en-

tomologist E. P. Lichtenstein. He is leader of a five-state project to study the fate of insecticides in soils. If there were a build-up of insecticides in soils—enough to damage crops or the beneficial organisms in the soils—a drastic re-evaluation of insect control practices might be needed, Mr. Lichtenstein told the group.

He reported results with various rates of aldrin, dieldrin, lindane, and DDT—results which supply important information for long-range control recommendations. He indicated that DDT applications stayed in the soil longer than the others, and aldrin disappeared most rapidly.

J. F. Doane and R. K. Chapman of the University, reported that heptachlor and dieldrin gave good control of root maggots in radishes. A seed treatment or pre-planting soil treatment is most practical, they said. For

(Continued on page 12)

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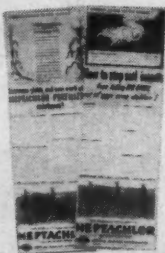
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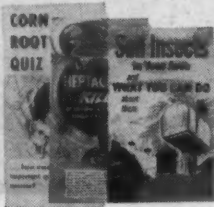
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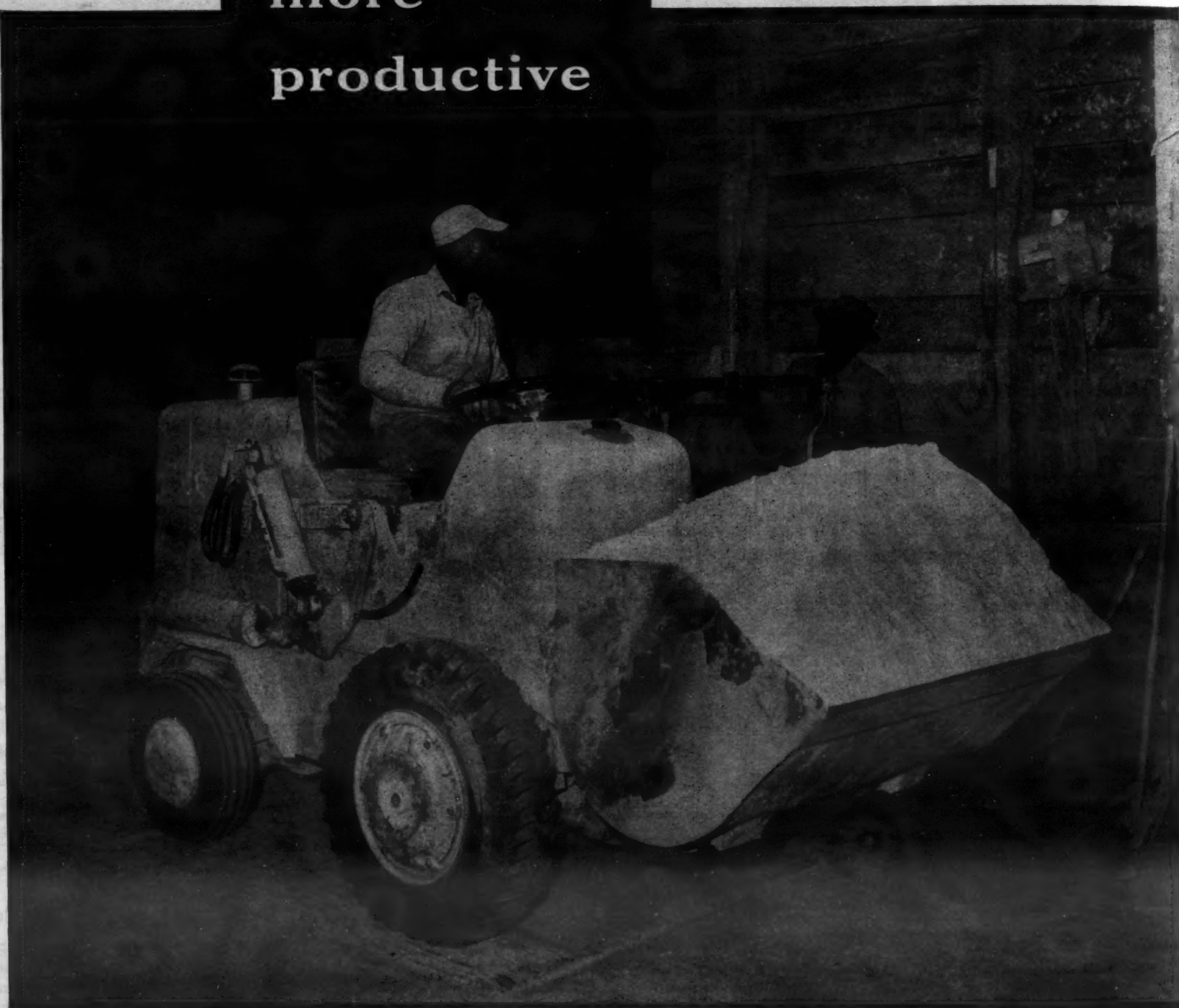
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Indiana Corn Champs Use Fertilizer Wisely

LAFAYETTE, IND.—Max Martin, Parke County farmer, won the 1956 Indiana 5-acre corn contest with an official yield of 215 bu. per acre, G. P. Walker, Purdue University extension agronomist, announced.

Allen Harris, Wayne County, was second in the contest sponsored by the Indiana Crop Improvement Assn. and the Purdue University agricultural extension service with a yield of 209 bu. per acre. H. J. Roadruck of White County, a three-time state

winner, was third with 203 bu. per acre.

Mr. Martin's 215 bu. yield is the third highest in the history of the official contest. He produced the highest yield in both the senior and junior contests which were entered by 4,014 participants.

In preparing for his top yield on a 21-acre field, Mr. Martin plowed under a twice manured alfalfa sod with 500 lb. of 0-10-30 fertilizer per acre. He applied 100 lb. anhydrous ammonia while preparing the seed bed with two diskings. On May 10 he planted in 38-inch rows a population of 20,000 seed grains of Indiana certified 680 hybrid per acre with 200 lb. of 5-20-20 fertilizer in the row.

In 1955, an accidental thick planting at this high rate had helped win second place honors in the state junior 5-acre contest for his son David. In reporting to his county agent, Billy Beach, Mr. Martin said David's

experience convinced him that he should again use a heavy population in his try for a high yield.

Mr. Harris also had a high fertility program. He plowed under sweet clover with 200 lb. of 60% muriate of potash and 100 lb. 0-20-20 fertilizer and disked in a similar broadcast application before planting. On May 25 he planted mixed G hybrids in 38-inch rows with 200 lb. 8-32-0 in the row. He side dressed a heavy population of 20,000 plants per acre with 150 lb. of nitrogen solution.

FARM SUPPLY STORE SOLD

PORTLAND, ORE.—Sale of the Farm, Feed and Supply store, Gresham, Ore., 12 miles east of Portland, by owner Glen Blair, to Bud and Dean Metzger of that city, was announced recently. The store was originally owned by the Metzgers, but was sold to Mr. Blair in 1951, when Bud Metzger was called to military service. The outlet will be named Metzger Feed Co.

Promising Future Seen for Mulch Tillage in East

WASHINGTON—Mulch tillage has become a well-established practice in the Great Plains, but in more humid regions of the nation its use is lagging, even though its value for soil conservation is widely recognized, the U.S. Department of Agriculture reports. Federal-State cooperative research now under way points to methods for overcoming present disadvantages of this practice in the East.

Seed bed preparation by any tillage tool that leaves all or most of the crop residue on the soil surface is known as mulch tillage.

In the more arid parts of the U.S. this "stubble-mulch farming"—as it is commonly called—decreases soil erosion and water runoff, while giving yields that are at least as high as those under soil-depleting clean cultivation. But in the eastern section of the country, where mulch-tillage research has been concerned mainly with corn production, the practice often results in lower yields, USDA said.

Scientists of USDA's Agricultural Research Service and eastern state experiment stations are seeking ways to couple high yields of corn with mulch tillage for effective soil and water conservation. They regard the outlook for success in this research as promising.

Most farmers in the eastern part of the country are attempting to control soil and water loss through crop rotation, contour farming, strip cropping and terracing.

Mulch tillage has proved its ability to save soil and water, permitting farmers to grow corn more often on the same land. But on poorly drained soil, especially, this tillage method keeps the soil wet and cold for too long in the spring. Some researchers suggest that an exposed strip of bare soil immediately above the corn row be cleared of mulch to permit the soil to warm up earlier. Band placement of phosphate also may prove desirable.

Mulch tillage tends to increase weed problems in humid areas. Use of herbicides to kill the old sod and control weeds during growth of the row crop, plus tillage with implements that cultivate through surface mulches, will help overcome this difficulty, USDA says.

WISCONSIN MEETING

(Continued from page 9)

turnips, the best treatments seem to be heptachlor, dieldrin, and aldrin drilled into seed furrows at planting time or broadcast on the soil before planting. The soil broadcast treatment seems best for rutabagas, which need protection for longer periods of time than the other crops.

Two pounds of DDT or one pound of demeton per acre gives the longest lasting control of yellow virus in carrots, lettuce, and celery, according to L. N. Chiykowski, University research assistant. But these materials present a residue problem on lettuce and celery if applied too near harvest. For the short-time control necessary before harvest, he found two pounds of malathion or one-half pound of parathion every three days to be best.

Some fungicides are effective in preventing damping-off of seedling plants in greenhouse flats and benches, the group learned from E. Wade, University plant pathologist. Nabam and Vapam as soil drenches before planting were very effective for instance. So was steaming and the use of sphagnum moss in place of soil. Thiram, captan, ferbam, and zinb were also effective when used properly, he pointed out.

CROP IMPROVEMENT DAY

AMES, IOWA—The annual Iowa Crop Improvement Day has been set for Feb. 12 at Iowa State College.



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By RAYMOND ROSSON
County Agent, Washington County, Tenn.

Granddaddy had pretty tough digging on the old farm, located on a narrow dirt road several miles from the court house, and a couple miles from the small community school, church and store. The land was pretty thin and more had to be cleared, so the youngsters could go to school. There wasn't much to sell, and what was sold, didn't bring much . . . neither was there much to buy.

Well, somehow, nobody knows, Granddaddy made the "riffle." The youngsters got some "book-learning" and a lot of education, by walking to school and reading by a coal-oil lamp. And when they had finished their education; they "up" and went to town. The cities grew and made the things the farmer needed, and the biggest thing they made for Granddaddy, was a market for what he produced, because he had to "sell something" before he could buy something.

Daddy took over where Granddaddy left off. He purchased better tools and machinery; bred better livestock; planted better seed; rotated his crops; sowed more legumes; used liberal amounts of lime where needed and applied a balanced fertilizer for all the crops; tied the hillsides down with grass roots and put the row crops on level land only.

Science served Daddy better than it did Granddaddy and we've been reaping the reward. Let us resolve to beat both Granddaddy and Daddy beginning 1957.

Half Million Acres in South Dakota to Need Hopper Control in 1957

BROOKINGS, S.D.—A total of 500,000 acres in South Dakota will require insecticidal treatment in 1957 if grasshoppers are to be controlled properly, John Lofgren, South Dakota State College extension entomologist, said recently.

He said that surveys indicate that hopper eggs are abundant in the Black Hills area and in the eastern portion of the state. Range, hay meadows and some cropland are heavily infested in the Black Hills area.

Fertility Important to Irrigators, Agronomist Says

LAFAYETTE, IND.—Dan Wiersma, Purdue University extension agronomist, said recently that irrigators should pay special attention to the fertility of their soil. To produce an expected increase of 60 bu. of corn per acre by irrigation, it takes an additional 120 lb. of nitrogen, 60 lb. of phosphate and 90 lb. of potash, he said.

Wisconsin Company Has Contests for Truck Drivers

Bruce O'Connor, owner of the O'Connor Oil Co., Fond du Lac, Wis., owns a wholesale oil business in this Wisconsin city and has several filling stations operated by his company.

As such he employs quite a few men as truck drivers traveling the rural areas calling on farmers. Two years ago, Mr. O'Connor took on agricultural anhydrous ammonia and has been selling it to an ever widening list of farmers in the region.

Because he realizes that the man with a truck, whether he sells oil, tires or anhydrous ammonia, is the company's best contact with customers, Mr. O'Connor occasionally stages contests for the best all around truck driver, and he offers suitable prizes for three winners.

The contest, he says, is based usually on neat appearance, neat and well maintained truck and customer reports on service. Sometimes such a contest will operate on a monthly basis for six months. Then it will be discontinued for a while and resumed again. A contest like this, Mr. O'Connor states, constantly makes truck drivers aware of the fact that they are an important part of the business and that neatness in person and equipment means something to customers.

The O'Connor Oil Co. has a storage capacity of 60,000 gallons for anhydrous ammonia. It also has several applicators and handles this work when the farmer requests it. Sales of anhydrous ammonia plus application can range from \$200 to \$1,600 per customer, reports Mr. O'Connor. Since he started selling the product he has set up a policy of cash for the job when application is completed and this has been working out very well in this area, he said.

Most of the anhydrous ammonia which the firm has sold in the past has been in spring and in summer; but last year Mr. O'Connor began pushing sale and application of the fertilizer in the fall season with some results. During the spring months he does considerable newspaper and radio advertising on this type of fertilizer.

Record Yields Made in Illinois Corn Tests

URBANA, ILL.—Record high corn yields on seven test fields in Illinois were recorded in the 1956 Illinois corn tests conducted by the University of Illinois College of Agriculture. Average yield of the 352 hybrids tested was 116.4 bu. an acre, according to Earl Leng, plant breeder in charge of these tests.

The test field at Urbana made the highest average yield of 127.8 bu. an acre. Average yields on other test fields were 117.3 bu. at DeKalb, 124 at Galesburg, 123.9 at Ashkum, 121.8 at Greenfield, 104.6 at Wolf Lake and 95.3 at Brownstown.

\$20 FOR \$1

LAFAYETTE, IND.—A dollar invested in seed, fertilizer and pest control could easily return \$20 worth of high quality food for the home gardener, report Purdue University horticulturists.

SEEING IS BELIEVING

Iowa Firm Uses 35-Acre Corn Test Plot as Sales Booster

By AL P. NELSON
CropLife Special Writer

When a fertilizer dealer has his own test plot and keeps a record of how much he spends per acre annually in fertilizer, then he has some good proof to offer to his customers that proper fertilization pays.

This is what Dale Brallier, owner of Brallier Fuel & Supply Co., Rockford, Iowa, uses as a sales promotional feature. He has had a 35 acre plot in corn every year for four years, and he has kept accurate records on its production and costs each year.

Last year the yield on the plot went over 100 bu. an acre. Mr. Brallier figures he is spending \$15 an acre to fertilize the corn, and for this sum he has stepped up production by 35 bu. an acre in recent years.

To achieve his results, Mr. Brallier uses a plowdown with phosphate and potash in the fall, and then 75 lb. nitrogen per acre in the spring. He also uses some starter fertilizer in the planting box in spring.

"I find that the farmers are ready to ask questions and talk about the results I get," Mr. Brallier says. "The average farmer is not now spending \$15 per acre for fertilizer on corn land in this area, but I believe they can be worked up to it eventually. I would say the average is below \$10 per acre right now."

Mr. Brallier sells liquid nitrogen, and lately has also added complete mixed liquid fertilizers. He gets his mixed fertilizer from Ris Van, Inc., Belmond, Iowa, and he states that farmers are taking to mixed liquid fertilizer now that they see what good results it is bringing and how easily it can be applied.

This dealer also handles dry fertilizer and seeds. He is well situated to get considerable fertilizer and seed business from a wide area.

Once a year Mr. Brallier holds a fertilizer day, and may henceforth hold two a year. On last Sept. 28 he held a fertilizer meeting at a local hall with about 100 farmers attending. Mixed liquid fertilizer was the subject of this meeting.

"The farmers know pretty well what to expect of dry fertilizer, even the high analysis type," says Mr.

Brallier, "but they do need some more information on liquid fertilizers, straight nitrogen as well as mixed liquids. There is always something new to learn and farmers are usually eager to attend such meetings."

Mr. Brallier points out that most farmers realize the close relationship between quality seed, good fertilization and high yields, and nowadays will not plant good seed unless they think their land is well fertilized. On the other hand, many farmers, he states, have not yet adopted the practice of applying recommended amounts of fertilizer per acre, as shown on state soil lab tests.

Farmers are working up to tonnage recommendations, and may achieve them within a few years. But only a few farmers feel able to afford a big jump in tonnage one year. They like to make the annual advance in easy stages. Continuous fertilizer education programs will help to speed this process, Mr. Brallier believes.

Mr. Brallier has two bulk spreaders and several liquid fertilizer applicators. Some custom applicators also purchase their materials from him.

During the past year, Mr. Brallier remodeled the showroom and offices of his establishment. The showroom is now done in attractive knotty pine and has fine fluorescent lighting. New islands and display tables enable him to show considerable merchandise, including farm chemicals such as weed sprays and other items.

"We are going to push farm chemicals, too, this year," he says, "because this is a growing field and one in which farmers are showing interest. Control of the corn worm and corn borer is highly important and farmers are going to spend money for chemicals to control these and other pests on their crops."

THE LEADER?

URBANA, ILL.—Illinois farmers probably led the nation again in numbers of soil samples tested in 1956, as they did in 1955, A. U. Thor, manager of the University of Illinois soil testing laboratory, said recently. He estimates that more than half a million soil samples were tested last year in the 83 county extension and 42 commercial soil laboratories in the state.



AT IOWA FIRM—Dale Brallier, owner of Brallier Fuel & Supply Co., Rockford, Iowa, is shown above taking an order from a customer. Walls of the newly remodeled showroom are in knotty pine. The attractive room is well-lighted, and it has new display islands and tables.



FARM SERVICE DATA

Extension Station Reports

Effective weed control can be an important factor in soybean production. Weeds have reduced soybean yields by as much as 17% in tests conducted by C. R. Weber and D. W. Staniforth of Iowa State College.

The researchers have studied the effect of weeds on soybean yields over a period of 4 years.

Both naturally occurring and planted weeds were used in their experiments. Weeds were removed from some plots in mid-July. In others they were left until harvest.

In plots where soybean stands were 10 to 12 plants per foot, yields were affected little when weeds were removed by mid-July.

When the weeds were left until early August, yields were reduced 7%. And when weeds were left in the beans until maturity, yields were cut 17%.

In soybean stands of five or six plants per foot, natural weed infestations caused yield losses three times as great as those in the 10- to 12-plant stands.

Minnesota's 1956 X-Tra Corn Yield Contest showed the importance of having a high number of corn plants in each acre.

Charles Simkins and Curtis Overdahl, extension soils specialists at the University of Minnesota, report that on the well-fertilized X-Tra yield plots, farmers who planted 12,000 or less plants per acre had average yields of 103 bu. per acre. Where the populations averaged 16-18,000 plants

per acre, yields averaged almost 129 bu. per acre.

Fertilized plots with populations of nearly 17,000 plants averaged 52.5 bu. per acre more than fields that had populations of less than 12,000 plants per acre and received no fertilizer.

Until recently, conventional plant populations on most farms averaged about 10-12,000 plants per acre. Now, University of Minnesota soils specialists and agronomists recommend up to 18,000 corn plants on each acre.

Planting more than 18,000 plants didn't result in much further increase in the 1956 contest. When there are too many plants per acre, they compete with each other for moisture and plant food.

Subsoiling to a depth of 20 inches plus generous applications of fertilizer can materially increase crop yields in some years, says a Purdue University agronomist. Soil scientist Helmut Kohnke points out that the subsoil fertilization favors deep-rooted alfalfa over the more shallow-rooted grasses and clovers.

Experiments in Indiana and elsewhere have shown that the roots of the plants have grown considerably more and deeper where the subsoil was opened up and fertilized. Yield increases are not regular, however.

This method of subsoil fertilization "will in time deepen the effective rooting zone of the soil and make the plants more independent

of weather conditions," Mr. Kohnke says.

He emphasizes that the fertilizer should be distributed throughout the subsoil that is opened instead of simply being placed on the bottom of the groove. Several types of chisels and fertilizing units have been used in this type of soil improvement. On heavy soils and where the subsoiling goes rather deep, crawler type tractors are preferred.

Subsoiling should always be done in the late summer and early fall when the soil shatters. If subsoiling is done on the contour it helps hold rain water and will decrease runoff and erosion.

Vertical mulching—opening of the subsoil and blowing chopped crop residues into the soil—will speed up subsoiling results. The slit is completely filled with a padding of organic matter which allows surface water to sink into the ground.

Mr. Kohnke points out that the calcium content of the soil is extremely important in the management of organic matter. "It seems advisable to place lime as deep into the soil as possible so whatever humus is leached down to that point will be transferred into this stable calcium humus and will be maintained there much longer for the benefit of soil structure and crop roots," he says.

More than 10,000 Illinois farmers have been sent questionnaires in a pasture survey, J. A. Ewing, head of the Crop Reporting Service in Illinois, and Leo Fryman, extension dairy specialist, University of Illinois, have announced. The survey will disclose how much pasture improvement has been made since another survey was taken five years ago.

A flexible extension service geared to emergency action yet still carrying on its long-time educational program was outlined recently by Harold E. Jones, director of the Kansas State College Extension Service.

Citing serious threats by grasshoppers in Comanche County and corn ear worm in Marshall County last year, the director said that prompt action by extension personnel and others helped avert greater damage.

In Comanche and adjoining counties more than 100,000 acres of rangeland were sprayed and good kills of grasshoppers obtained. The corn ear worm outbreak, found in 72 of 73 fields examined over Marshall County, resulted in immediate action and pointed up an emergency insect control program that will receive attention this spring.

Really good pasture—compared to a poor grazing area—can save a dairy farmer up to \$34 per cow in summer feed, according to Ermond Hartmans and Hal Routh, extension farm management specialists at the University of Minnesota. They point out that top quality pastures—managed correctly—cost the farmer only 74¢ in production costs for every 100 lb. of total digestible nutrients (T.D.N.) in the forage.

That's far cheaper than any other feed that a farmer can raise or buy, Mr. Hartmans said. Alfalfa-brome hay and silage each cost \$1.45 per hundred pounds of T.D.N. and oats cost \$3.69 per hundred pounds of T.D.N.

In comparing top quality pasture with poorly-managed pasture that is 40% lower in feed value, Mr. Hartmans says that the poor quality pasture would cost the farmer just as much to maintain.

But if the farmer made up the difference in feed value between the good and poor pasture by feeding hay or silage, it would cost him an extra \$10.20 per cow for the summer. With other feeds, it would be even more expensive. Feeding enough corn to make up for the 40% T.D.N. loss in poor pasture would add \$21.60

to each cow's production cost, and feeding a medium-high protein concentrate would mean an additional \$34.60 feeding cost per cow.

Mr. Hartmans also compares good and poor pastures another way. Past research has shown that with excellent pasture and ration-a-day grazing, a dairy herd with a butterfat average of 350 lb. per cow can give the farmer a \$76 labor return per acre, if he sells grade A fluid milk. But with poor pasture, the same herd producing milk for the grade A market would return the farmer only \$11 labor return per acre. Labor return is income after production costs and interest.

North Dakota has great irrigation possibilities, in the opinion of Dan McLellan, North Dakota Agricultural College extension water use specialist. Nearly two million acres can be irrigated from water behind the Garrison dam and the Missouri River, he says.

Mr. McLellan considers irrigation as one of the best forms of crop insurance available, but doesn't look for widespread irrigation to come about overnight.

"Irrigation is something completely new and different to most North Dakota farmers," he says. "A lot of folks aren't familiar with all the necessary details, and, naturally, don't want to make any long range decisions until they are sure irrigation will fit into their farming program."

With only two million out of North Dakota's 44 million acres eligible for irrigation, the state's all-over production pattern won't be greatly changed by irrigation. Some management changes in the irrigated areas will come and, since irrigation farming requires more attention per acre than dry land farming, there may be a shift to smaller farms in the irrigated districts.

Livestock will figure prominently in irrigated land management as a means of marketing the alfalfa and grass crops that good rotation practices will demand, Mr. McLellan says. Any other crops that do well under North Dakota growing conditions can be successfully raised on irrigated land. Although wheat under irrigation yields 40 to 45 bu. per acre, many other crops are capable of bringing higher returns per acre.

A South Dakota farmer once quipped, "This business of controlling weeds is sorta like wearing long winter underwear. They always creep up on you when you aren't looking."

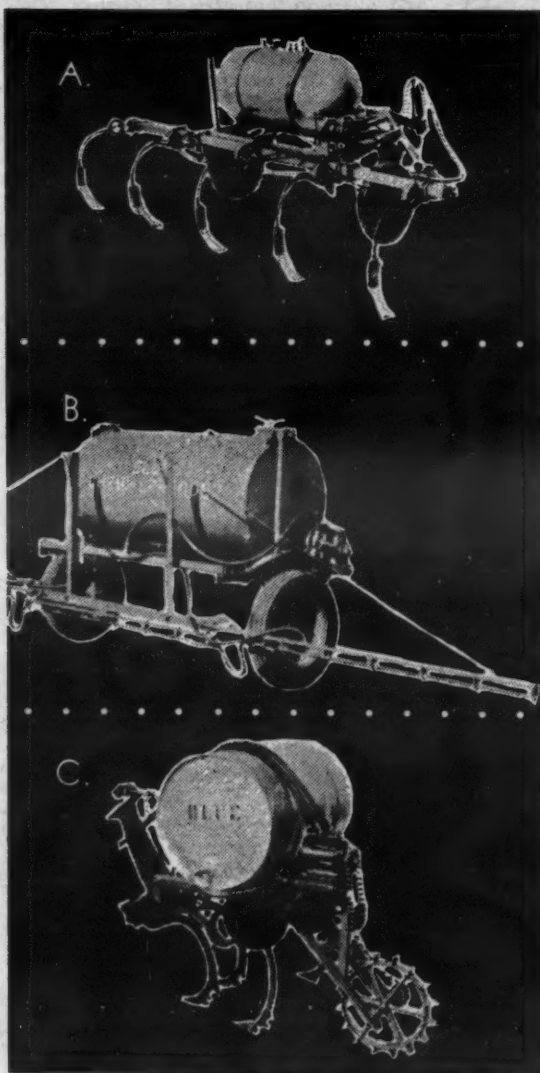
"Anyone who has carried on a weed control program of his own knows just how true this little analogy really is," says Keith Wallace, extension weed specialist at South Dakota State College.

To the weed conscious farmer it sounds rather strange that anyone would spend money and time cultivating and spraying crops all summer long and then forget about them the rest of the year. It is still harder to believe that many farmers deliberately plant weeds every spring.

Yet a three year survey of weed seeds found in drill boxes shows that this is precisely what many farmers in South Dakota are doing. Mr. Wallace said that in a survey of 363 farmers who were seeding grain, over half of them were planting primary and secondary noxious weed seeds. The most common weed seeds planted were wild mustard, wild oats and creeping jenny.

After checking some of the worst samples they found that one man was busily planting over 1,750 weed seeds with every pound of oats. That meant that for every bushel of oats he also sowed over 56,000 weed seeds.

Although, the cleanest samples contained an average of only two and one-half seeds per pound, Mr. Wallace pointed out that these farmers were still planting 80 weed seeds with every bushel of oats. But, the careless farmer was planting 70 times as many.



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SHOP TALK OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

There are several good reasons for farmers to buy fertilizer this winter and store it on their farms until spring. These reasons will make effective advertising copy during the next month or two if you want to push early sales. Here they are:

- (1) The farmer will be sure of getting the exact grade and amount of fertilizer he wants. The plant food will be well cured and the customer can get immediate delivery.
- (2) The farmer will have the fertilizer on hand ready to use when planting time arrives.
- (3) He will save time and avoid costly delays in the spring when the big fertilizer rush is on.
- (4) He will avoid the risk of scarcities during the spring rush, when some grades of plant food may be hard to get.

Dealers can emphasize in early-buying promotion that fertilizer can be safely stored on the farm and that it will be in good condition when needed. Here are some ground rules for on-the-farm storage:

Use a barn or some other dry building. It is advisable to put the bags on 2x4's or cribbing above the floor, so that the fertilizer won't soak up moisture. Bags should be piled only seven or eight high to prevent caking. Broken bags should be kept separate from the main pile.

Dealer School In Minnesota

Fertilizer, herbicides, insecticides and soil testing will be among the subjects to be taught at the grain elevator operators' short course scheduled for the University of Minnesota Feb. 25 to March 15.

Since many elevators in the northern U.S. areas are sizable handlers of fertilizers and other farm chemicals, there was a demand that topics relating to them be included in the three-week course. Dr. W. P. Martin, head of the soils department, University of Minnesota, and members of his staff will be among the instructors.

There is a trend among the agricultural states to initiate these management short courses. They are a valuable instrument in upgrading merchandising methods. Here are some of the important topics—in addition to those listed above—which will be covered: Insect control, seed and grain handling and warehousing, credit, molds, fire prevention, book-keeping, public relations and personnel.

Any manager is certain to find such an intensive three-week course helpful in improving his operation. More information about the course is available by writing to Dr. J. O. Christianson, director, agricultural short courses, University of Minnesota, St. Paul 1, Minn.

Charges for Custom Work

Dealers who do custom work in fertilizing and spraying may be interested in some cost figures worked out by Iowa State College, based on some 3,000 acres of cropland in production in 1956. The figures are shown in the accompanying table.

It should be remembered that the figures represent actual costs to the college. The rates include depreciation, interest on investment, housing,

federal excise taxes, repairs, servicing, fuel, lubricants and labor. The costs do not include charges for ownership risk and profit, necessary items for the custom operator who expects to stay in business. Therefore, costs shown in the table should be increased from 25 to 35% to give the owner a reasonable profit and allow for risks of ownership and unforeseen complications. Damage to equipment while on the highway or when using in a rough field, unusually wet or dry fields or small jobs are often complicating factors when doing custom work.

Also, the college notes that its fuel purchases, being tax-free, saved 8-10¢ per gallon and a discount of 10% was realized on all repair purchases. All labor was billed at \$1.30 per hour, although actual wages paid varied.

How to Handle a Worker In a "Raise Interview"

A quick brush-off of a worker who asks for a raise usually leads to a low morale, spotty production and smoldering grievances.

That's because the family finances are a touchy matter in these days of high prices—and in most cases the Missus won't let her husband forget.

Dipping into the fine points of a raise interview the handling of a worker in the right way usually:

- Makes the worker feel better. He gets a chance to blow off steam and justify himself in the eyes of his wife.
- Brings out any "sleeping discontent" early—before it becomes a production drag on the worker's mind.
- Gives you a clue to what may be wrong in the mill.

Some Preliminary Steps: But even before the worker pops the fatal question, there are these pointers to bear in mind:

- Try and anticipate a worker's request for a raise. You can do this best by keeping close contact with each man via personal chats.

- If, in your talks, you think you spot something bothering a worker call him in and ask him point blank what the trouble is.

How to Handle the Interview: When a worker asks you for a raise, use the following checklist:

- First, take him where it's private.

(Continued on page 18)

FARM CUSTOM RATE GUIDE—1957

Farm operation	College farm service cost*	Suggested operating margin (%)	Suggested range in actual charge†
Plant, check row: 4-row	\$1.35 acre	25	\$1.70-\$2.00 acre
4-row and fertilizer	1.40 acre	25	2.00- 2.40 acre
Cultivate shovel or sweeps: 2-row	1.35 acre	25	1.60- 2.00 acre
4-row	1.05 acre	25	1.25- 1.50 acre
with side-dressing	1.50 acre		
Loan, haul and spread manure‡	1.85 ton	35	2.20- 2.60 ton
Spread commercial fertilizer broadcast	1.30 acre	30	1.45- 1.85 acre
Spray 2,4-D (corn or flat work includes 2,4-D)	2.25 acre	30	2.60- 3.15 acre
Spray corn borer (no materials furnished)	0.50 acre	30	0.65- 0.75 acre
Spray DDT, fly control in buildings and around lot, men (no materials)	3.50 hour	30	3.60- 4.50 hour

*Based on cost accounting experience. (Includes depreciation, interest on investment, housing, federal excise taxes, repairs, servicing, fuel and labor.)

†Average length of haul 2 miles one way.

‡Actual charge depends upon individual condition, favorable or unfavorable.

The Bulletin Board

WHICH BRAND DO FARMERS WANT?

Survey Shows Spencer "Mr. N" Is Best-Liked Ammonium Nitrate

3 Reasons Why You'll Make More Sales and Profits When You Specify Spencer "Mr. N"

1 Independent Survey Shows More Farmers Prefer Spencer "Mr. N" Than Any Other Nationally Advertised Brand

When you invest in merchandise, you naturally want to stock the brand that will sell best. But until now there has been virtually no information on farmer preference for brands of Ammonium Nitrate.

That's why an independent research organization recently sent questionnaires to 10,000 midwestern farmers asking, "Which brand of Ammonium Nitrate do you prefer?"

The results of this survey show that more midwestern farmers prefer Spencer "Mr. N" than any other nationally-advertised brand. In fact, "Mr. N" got more votes than the next three highest-ranking brands combined!

2 You Can Be Sure "Mr. N" Will Arrive in Good Mechanical Condition

No need to worry about Spencer "Mr. N" arriving caked solid as a rock! "Mr. N" is the first Ammonium Nitrate guaranteed to flow freely, even after a full year's storage under proper conditions. That's because Spencer "Mr. N" comes in polyethylene-lined bags for 100% dryness. The round, uniform prills in every bag of "Mr. N" you sell won't cake, won't clog the spreader.

No expensive special storage facilities are required for "Mr. N" Ammonium Nitrate, and no expensive machinery is needed to apply it—more reasons why "Mr. N" has won the approval of dealers throughout the Midwest!

3 Spencer Backs You With the Biggest Advertising Program in Company History

This year, nineteen out of every twenty farm families in your area will be reached by radio, magazine or newspaper advertisements for Spencer "Mr. N".

Magazine

In February, March and April, there will be big advertisements in *Capper's Farmer* and *Successful Farming* magazines—ads that tell of the out-

standing results that farmers here in the Midwest are getting with the help of Spencer "Mr. N". But that's not all!

From February through May, there will also be "results" advertisements every month in *The Farmer*, *Nebraska Farmer*, *Prairie Farmer*, *Wallaces Farmer* and *Iowa Homestead*, *Wisconsin Agriculturist* and *The Weekly Star Farmer*.

That means that all through the peak of your selling season there will be advertisements in the leading farm magazines in your area, working to help build sales of Spencer "Mr. N" for you!

Radio

Backing up this hard hitting magazine advertising campaign will be farm radio programs! Yes, all through the Midwest, farm-radio directors will be recommending Spencer "Mr. N" to all their listeners, day after day. Just look at this line-up of top stations and leading farm-radio directors:

Les Weatherwax on
KFBI Wichita, Kans.
Jim Leathers on
KMBC-KFRM Kansas City, Mo.
Ted Mangner on
KMOX St. Louis, Mo.
Evan Slack on
KLIK Jefferson City, Mo.
Bill Macdonald on
KFAB Omaha, Nebr.
Herb Plambeck on
WHO Des Moines, Iowa
Chuck Worcester on
WMT Cedar Rapids, Iowa
Bill Mason on
WLS Chicago, Ill.
Maynard Speece on
WCCO Minneapolis, Minn.
Jay Gould on
WOWO Ft. Wayne, Ind.
Wes Seyler on
WIBW Topeka, Kans.
These farm-radio directors will be recommending Spencer "Mr. N" to thousands of farmers—hundreds of them right in your sales area!

How Does It All Add Up For You?

Just take a look at all the advantages you can get by specifying Spencer "Mr. N":

1. You stock a brand that is preferred by more midwestern farmers than any other nationally-advertised brand of Ammonium Nitrate!
2. You end the worry of troublesome caking, since "Mr. N" has dryness sealed in!
3. You stock and sell a brand that is backed by the strongest advertising campaign ever!

Take advantage of this easy way to take the guesswork out of deciding which brand to stock. Your fertilizer manufacturer can supply you with Spencer "Mr. N" right now, so ask for Spencer "Mr. N" Ammonium Nitrate Fertilizer. Insist on Spencer "Mr. N".



To Fertilizer Dealers ONLY

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Gentlemen: I am a fertilizer dealer not presently receiving Today's Fertilizer Dealer magazine. Please send me a free subscription without obligation.

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GIGANTIC WEED KILLER PROMOTION TO YOUR STORE FIRST

Monsanto's Spray-Rater premium, 2 new types



Monsanto's special promotion brings customers to your store just before heaviest buying season. You get first crack not only at weed killer sales—but also at related items like seed, fertilizer, etc.



1. New, Exclusive Spray-Rater Premium—a \$2.50 value, but your customers pay only 25¢ with 5-gallon purchase of Monsanto weed and brush killers. Here's an item your competitors can't give the farmer: a sturdy plastic measuring device to make sure his spray is spraying the correct amounts. Buyer collects special tags on cans, send 'em to Monsanto with 25¢—no work for you. For more facts, write today.



4. Big "Silent Salesman" Display, life-size farmer display in full color holds an actual Spray-Rater for customers to inspect, shows can of Monsanto herbicide. Built-in literature rack keeps your counter free from clutter. This display is an "extra" salesman who works for you free, helps you make more sales. To get him working for you in time, write today!

ER PROMOTION PULLS FARMERS ST-IF YOU ACT NOW!

new type weed killers give you head start



TWO Brand-New Grassy-Weed Killers—Monsanto Randox* and Vegadex.* These two new selective pre-emergence weed killers help your customers harvest greater yields! Randox kills annual grassy weeds without damage to corn, soybeans and many vegetable crops; Vegadex effectively eliminates hand weeding in most vegetable crops. Stock, sell profit from these new additions to the big Monsanto line. Write today!



3. 41 Full-Page Ads, 34 Half-Page Ads in farm magazines and papers, including publications in *your* home territory, announce the exclusive Spray-Rater offer **TWO WEEKS BEFORE** the usual time farmers in *your* area buy weed killer! You get a two-week head start over your usual competition! Be sure you profit from this advertising. Write today!

MONSANTO WEED AND BRUSH KILLERS
2,4-D amine and esters, MCP amine for weeds; 2,4-D/2,4,5-T and 2,4,5-T esters for brush.

OTHER MONSANTO PRODUCTS FOR THE FARM
Meta-Green® Silage Preservative, Parathion insecticides, phosphates (liquid and solid), Lion Brand ammonium nitrate, sulphate of ammonia, anhydrous ammonia.

Send Your Name and Address Today to...

Farm Chemicals, Organic Chemicals Division
MONSANTO CHEMICAL COMPANY
Dept. AC-1, St. Louis 1, Missouri

*Trade-mark of Monsanto Chemical Company



Literature, Movie, Catalogs back you up all the way. Give your Spray-Rater literature and other sales folders for your sales display dispenser, and mailings; 16-mm. full-color, 18-min. movie for showings; store banners; catalogs; last-minute material on new herbicides; new Monsanto 2,4-D and 2,4,5-T formulations—other sales aids. Just write today!





Doing Business With

Oscar & Pat



By AL P. NELSON
Croplife Special Writer

The dinner of sauerkraut and spareribs, rye bread, slippery Jims, fried apples, mashed potatoes and Blitz torte had been especially satisfying to Oscar Schoenfeld. Rubbing his rotund stomach appreciatively, he got up from the table and said, "I guess I will read the paper now, Minnie. I am glad I thought about getting the morning paper from the hotel on my way home nights. That saves me a nickel a day, and they only throw the papers away anyway. Ach, how some people spend."

Minnie looked up from her coffee. "Shall I light the kerosene lamp in the parlor tonight, Oscar, or do you want to turn on the electric light?"

Oscar considered. "No, we will not use either. Ach, I will pull the rocker into the kitchen. Then when you do the dishes we will use only one light. We have to save, you know, even if the rest of the country spends like drunken sailors."

Minnie sighed. This latter phrase about savings was as regular with Oscar as breathing. Sometimes Minnie got just a wee bit fed up with saving. Sometimes she wished that she could go on a spending spree maybe one hour in every five years. But she dared not mention this to Oscar.

After Oscar had seated himself in the rocker in the kitchen, Minnie did the dishes. She looked up from her pan of skimpy soap suds.

"Oscar," she said, "there is Ladies Aid tomorrow at Gustafson's."

"Oh?" said Oscar, not too interestedly. "Well, I am glad it isn't here. Ach, those women snoop too much when they come here and they eat too much."

"But I can't keep putting them off saying mother is sick and I don't know for sure if I can have Aid," Minnie said. "It's four years since we had the Aid, and the women are getting mean about it."

"Huh!" said Oscar.

"And—and will you be able to get me after Aid at Gustafson's?" Minnie asked. "I can walk there, but it's cold coming back."

"Well, I will drive down and get you if I can get the car started," Oscar said, "but I will not haul those four fat friends of yours to their homes, too."

"Oh, Oscar, why not?" pleaded Minnie. "They are my friends."

"Well, why don't you get skinnier friends?" Oscar grunted. "Ach, I never forget that time those fat women piled into my car and I broke a spring going over a bump in the road over at Hanner's."

"Oh, but our car is old and maybe the spring was weak anyway."

Oscar grunted. "It would have lasted if we didn't load the back seat so, Minnie. Ach, I get so sick of them women gassin', anyway. Always talking about who's in the family way, who's runnin' around with somebody else's husband, who said something nasty about the minister. Ach, such stuff."

Minnie sighed. "Well, maybe we can get somebody else to take us home. But my friends do buy some seeds and

fertilizer from you every year, so I should try to be nice to them. You, too."

"Ach, what little they buy! They come in and want a five pound bag of sheep manure for their African violets. Then they stand around and talk to me about those violets, and they talk, and talk and talk. I don't want to talk. I want to get back to my books and discounts and add up the collections so I can get that lazy Pat out to collect."

Once more Minnie sighed. "Well, I am going up to take a bath. Do you think I could turn on the gas heater for nine minutes tonight, instead of eight? It's kinda cold weather."

Oscar shook his head. "No, eight minutes was always enough for us, Minnie. We can't get extravagant, you know. Ach, if we step the heater up to nine minutes, then first thing you know we up it up to ten, and it runs away with us."

Minnie said nothing. Sadly, she put away the last dish, then lighted the gas heater, set the controls and went upstairs. After about fifteen minutes, she called down to Oscar through the register in the floor between the first floor and bathroom.

"O—Oscar, I—I'm chilled. The water doesn't seem so hot. Can you turn on the gas heater a little more?"

For a moment Oscar did not answer. A frown overspread his face. Then with a surly motion he got up. "You know the gas bill was \$3.75 last month, Minnie!" he warned. "We have to watch ourselves. I will turn it on three minutes more—that gas heater—but we will have to have baked beans tomorrow night to make up for that extra expense."

"All right! All right!" agreed Minnie through chattering teeth.

After Oscar had lighted the gas heater again and got to the first floor, the telephone rang.

Oscar answered it. Mrs. Esther Gunnarson, weight 260, was calling. "Is Minnie there, Oscar?" she asked in her high treble voice.

"She's sitting in the bathtub," Oscar replied, his own voice rising.

"Oh," giggled Mrs. Gunnarson. "Well, I just wanted to know if we could have a ride home from the Aid with you," she tittered engagingly, "or if we would have to make other arrangements?"

"My car battery is just about kapoot," Oscar said. "And I can't take a chance driving way down to Gustafson's. So you better make other arrangements for coming back. Minnie is going to walk. She is getting too fat. Other people could walk more, too, ach. Why don't you try it?"

And he hung up, feeling very pleased with himself.

OLIVE DAY

DAVIS, CAL.—Insect control problems in olives will be discussed by E. M. Stafford of the University of California department of entomology during Olive Day, a shop-talk session for all olive growers and processors Feb. 9 at the University of California, Davis. The all-day program, first of its kind, is sponsored by the University in cooperation with the California Farm Bureau Research Committee.

ENTOMOLOGIST NAMED

MANHATTAN, KANSAS—Harold Arnett of Clarksdale, Miss., has been appointed an instructor in the entomology department of the agricultural experiment station at Kansas State College. He replaces the late Prof. Harry R. Bryson who died Dec. 3. Mr. Arnett holds B.S. and M.S. degrees in science from Mississippi State College.

Soybean Nematode May Prove Serious Threat in Missouri

COLUMBIA, MO.—The soybean cyst nematode, discovered in southeast Missouri late in 1956, may prove to be a most serious threat to soybean production, say University of Missouri extension and survey entomologists Stirling Kyd and George Thomas.

Undiscovered in this country until 1954 when it was found in North Carolina, the soybean nematode was noticed late last year in Lake County, Tenn., just across the Mississippi River from Pemiscot County. Missouri surveys were started immediately as the nematode was easily found in the southeast part of the state.

Surveys are continuing and it looks as though the infestation may be fairly general throughout southeastern Missouri, the two entomologists say. The State Department of Agriculture and the U.S. Department of Agriculture are conducting the surveys in southeast Missouri.

The soybean cyst nematode has been a pest in bean-producing areas of Japan, Korea, and Manchuria for years or more. It's one of numerous tiny, almost transparent eelworms that infest soil, plants, and animals all over the world.

Soybeans are the principal crop plant and most attention has been given to the nematode's attack on that legume. However, North Carolina studies show the nematode will attack annual lespedeza also.

Consequently, the soybean cyst nematode must also be considered a potential serious threat to Missouri's 10 million acres of lespedeza. Commercial vetch and garden beans also succumb to the nematode's attack.

OVER THE COUNTER

(Continued from page 15)

Ease the tension by being friendly and sympathetic. Remember: It's hard thing for a worker to get enough nerve in hand to talk money.

• Once the question is "before the house," don't stall, get vague, or change the subject. So that you can size up the facts and gauge the approach to take, try asking some leading questions such as these:

Question Chart: 1. Why does he want a raise now? 2. Why does he think he is entitled to a raise? Is it because of his performance? Because somebody else got a raise, or what? 3. Does he know company promotion and-wage policy? 4. Does he think raises are given unfairly? 5. Does he have a pressing financial problem? 6. What does he think a raise will accomplish, if it is given now? 7. Has he been satisfied with his job and progress in the firm? His treatment? 8. Does he measure his job entirely in terms of money, or are there other important factors?

How to Say "No": Obviously the hardest job in handling a raise-minded worker is—how to turn him down. Here's a little blueprint to cover the situation:

• Review company policy on wages and promotions. Be sure to correct any twisted thinking.

• Have your records on the worker handy. See that they are up to date. Go over his performance with him, pointing out his strong and weak points.

• Follow with a presentation of other reasons why he can't have a raise he wants—at this time. However, tell him that he's free to take the problem up with you again at a time he wishes.

• To bring him down to earth, compare his general situation with that of some of the other workers without mentioning names, of course.

• Talk in terms of long range security and explain the company viewpoint. Show him why there is to be a regular wage schedule.

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- DEPENDABLE — distributor assembly of heat-treated gears. Sealed ball bearings.
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MONEY-MAKING OPTIONAL EQUIPMENT:

- Hood Attachment
- Center Dump
- Two Compartments
- Full Swinging Rear Door
- Clutch
- Belt-over Chain
- Drive Shaft Drive or P. T. O. Drive
- Sand and Cinder Spreader Attachment

HENDERSON MANUFACTURING CO.

1203 Rockford Rd., S.W. Dept. C-347 Cedar Rapids, Iowa

Minnesota Corn Contest Winner Gets 126 Bu. Boost from Fertilizer

ST. PAUL—Louis Schafer and son Earl, Goodhue, took first place in both divisions of the 1956 Minnesota X-Tra Corn Yield contest, according to Charles Simkins and Curtis Overdahl, extension soils specialists at the University of Minnesota.

In the "Hi-Yield" division, the Schafers topped all other state contestants with a yield of 161.4 bu. per acre. In "X-Tra Yield"—the difference between the X-Tra-Yield plot and a check plot that got no fertilizer—the Schafers again topped all entries with an increase of 126.7 bu. per acre on the fertilized plot.

Heavy fertilizing made this high yield possible for the Schafers. On their X-Tra Yield plot, they applied 300 lb. of 0-12-36 fertilizer and 300 lb. of 33% ammonium nitrate before planting time, and added 150 lb. of 8-16-16 with the planter. They sidedressed with 110 lb. of a complete fertilizer in July.

For the whole contest, higher yields in the X-Tra Yield plots were the result of heavier fertilizing and planting more corn plants per acre, say Mr. Simkins and Mr. Overdahl. In most check plots, farmers planted around 12,000 plants per acre—the conventional population. In X-Tra Yield plots, the farmers planted up to 19,000 plants per acre. A few farmers planted corn at even higher rates.

Second place in the "Hi-Yield" division was won by John Kruse, Hutchinson, close behind the Schafers with a 161-bu.-per-acre yield. Third place winner was Erling Burtness, Caledonia, with 160.4 bu. per acre.

In the "X-Tra Yield" division, second place went to Ambrose Lewandowski, Winsted, who in 1955 took first place in the entire contest. Last summer, Mr. Lewandowski had an X-Tra Yield of 121.7 bu. above his no-fertilizer check plot.

Third place in "X-Tra Yield" was taken by Donald and Virgil Eickhoff, Fountain, with an increase of 99 bu., compared to his check plot. There were 266 state farmers in the contest.

The Minnesota X-Tra Corn Yield contest is sponsored cooperatively by the University of Minnesota Agricultural Extension Service and the Farmer magazine, St. Paul.

Iowa Farmers Double Acres Irrigated in 1956

AMES, IOWA—Acres of cropland irrigated in Iowa last year were more than double the 1955 figure. Results of a statewide survey announced at Iowa State College show 401 operators irrigated a total of 26,897 acres of cropland in 1956. Reported total acreage for 1955 is 14,654 acres more than were irrigated in 1955. The number of operators irrigating crops increased 101 from the previous year.

In reviewing the survey made by Iowa State College agricultural engineers, Craig Beer of the college staff said information on total acres irrigated in 1956 was not reported for 70 of the 401 operators. Conservatively estimating that each of the 70 operators irrigated 20 acres would boost the total acreage under irrigation in 1956 to 28,297 acres, he pointed out.

BUREAU APPOINTMENTS

SARCAMENTO—W. C. Jacobsen, California director of agriculture, has announced the appointment of Max K. Johnson as chief, Bureau of Market News, and the appointment of Grant Hillis as assistant chief of the bureau. Mr. Johnson replaces George K. York who retired after many years as bureau chief. Mr. Hillis succeeds Mr. Johnson in the assistant's position.

Gloomicides

If the cows knew what milk is selling for now they wouldn't be contented, they'd be hilarious.

★

When Mrs. Jones saw that the canary's cage was empty, she immediately looked up her small son.

"It was there this morning," he assured her, "when I cleaned it with the vacuum cleaner."

★

"Psychologists say a hysterical girl is most efficiently quieted by a firm kiss."

"And do they say how to get them hysterical?"

★

A Scotsman went to a riding academy and said, "I wish to rent a horse." The proprietor asked, "How long?" "The longest you have," said the Scot, "there will be five of us going."

★

At the pound rate for which a woman's bathing suit sells—a man's overcoat would cost \$820,000.

★

"Anderson," said the friend at the bedside of the dying man, "have you made your peace with God and denounced the devil?"

"Well, I made my peace with God, but I'm in no position to antagonize anybody."

★

For years, throughout the night, the cannon at the lighthouse had been going off every hour on the hour to warn the ships at sea. For years the old lighthouse keeper had been sleeping soundly just over the cannon.

One night something went wrong with the automatic firing device and the cannon failed to go off. Waking from a sound sleep and leaping from his bed, the old man gasped, "What was that?"

★

The trouble with not having prejudices is, people think you're cowardly.

★

An alarm clock is a small mechanical device to wake up people who have no children.

★

Two traveling men were discussing the merits and demerits of various small-town hotels. One mentioned a hotel where the radiators could just as well have been used for refrigerators.

"That's nothing to a place I hit up in Montana one time," replied the other. "There wasn't even a radiator in the room, although the thermometer stood at 16 below zero. All I found was a small bottle of dark-looking liquid on a table near the bed."

"On a card pinned to the wall, which was evidently a duplicate of cards used in the other rooms, was this instruction: 'Take one teaspoonful of the Tobasco sauce after you get in bed. If you require a great deal of heat, take two teaspoonfuls.'"

★

Lady (at party): "Where's that pretty maid who was passing out cocktails a while ago?"

Hostess: "Oh, are you looking for a drink?"

Lady: "No, I'm looking for my husband."

★

Time may be a great healer, but most folks find it's not much of a beauty parlor.

★

It's hard to keep a good man down; but it's a lot harder to keep a good-for-nothing one up.

MATHIESON 4 POINT PROFIT PROGRAM

Here's an exclusive agricultural profit program that gives you cost-saving production and bonus profits.

1 AMMO-PHOS® FERTILIZERS



High-analysis, pelletized, and water-soluble Ammo-Phos assures maximum yields at minimum cost because its concentrated form provides more plant food with reduced handling and storage costs. Water solubility means both an immediate and long-lasting supply of plant foods. An analysis is available for every crop and soil condition.

2 ANHYDROUS AMMONIA



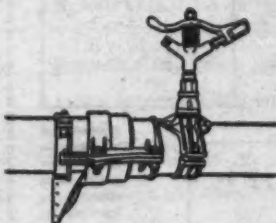
Mathieson, high-nitrogen, Anhydrous Ammonia—82% nitrogen—is highly effective when applied as a side dressing, at planting time or at plow down. Always supplying nitrogen in its most useable non-leaching form, Mathieson Anhydrous Ammonia is especially effective when applied during crop residue plow down since decay of residues is more rapid and complete.

3 PESTICIDES



Mathieson offers a complete line of insecticides, Fungicides, and Herbicides... completely tested and approved... carefully formulated for maximum effectiveness at minimum costs.

4 IRRIGATION SYSTEMS



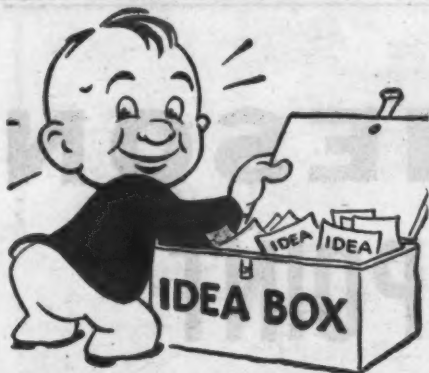
Mathieson irrigation systems are engineered to meet individual requirements. Important features such as square shoulder gaskets, positive lock couplers, extended foot, and steel bushings insure dependable and economical performance.

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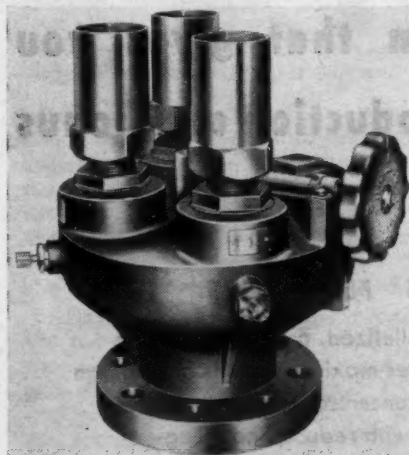
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6533—Relief Valve Manifolds

Ample safety relief capacity for larger anhydrous ammonia bulk storage tanks is claimed in a new pair of relief valve manifolds introduced by the Bastian-Blessing Co. Design-



nated the "RegO A7564 and A7565 Relief Valve Manifolds," each model has a cast steel body with three ports and three RegO AA3135 aluminum relief valves. According to the manufacturer, any two of these relief valves provide adequate relief capacity for all standard 18,000 and 30,000 gal. NH₃ tanks. Furthermore,

it was stated, any one of the three valves can be replaced while the tank is under pressure, avoiding necessity for evacuating the tank while removing valves for replacement or testing. The company also states that each new manifold has ample openings through the manifold body to assure negligible capacity loss. Rate of discharge at the various relief valve settings is said to be 11,200, 11,640 and 12,160 CFM of air. The manifolds differ only in their bolt circle diameter. Secure additional details by checking No. 6533 on the coupon and mailing it to Croplife.

No. 6534—Weed, Insect Control

The Chemical Insecticide Corp. has prepared literature on its product, called by the trade name, Chem-Vape, recently introduced. The product is called a "one shot treatment for the control of weeds and soil borne insects and diseases." It is a dithiocarbamate liquid and "one application properly applied prior to planting will insure effective control of the various grasses and broad leaf weeds including the seeds of these vegetable pests. This same application will also destroy nematodes, insects and fungi which are found in the soil," states the company's announcement. The product is said to have a low toxicity to warm blooded

animal life and leaves the soil in a relatively short period of time. It is available in liquid form packed in 55-, 30-, 5- and 1-gal. containers. Secure the literature by checking No. 6534 on the coupon and mailing it to Croplife.

No. 6535—Crow Repellent

A deer and rabbit repellent which is marketed by Larvacide Products, Inc., has been found to be most effective as a crow repellent, according to advice from the company. The use of Larvacide's Z.I.P. for crows first became of interest in connection with experimentation by the Connecticut agricultural experiment station which was determining methods of reducing losses in the production of hybrid corn. Since then work also has been done at Massachusetts and Michigan experiment stations. Z.I.P. treatment of corn seed before planting will discourage crows from pulling germinating seedlings, company officials state. Information concerning the use of the product, method of application and other data may be had by checking No. 6535 on the coupon and sending it to Croplife.

by truck or on specially designed freight cars, the bins are considered part of the carrying vehicle and thus qualified for transportation without freight charges on the bins," according to spokesmen for the companies. Each container is removable for loading and unloading purposes. Three sizes of containers—36, 65 and 88 cu. ft. capacities—are being built. Units may be stacked atop each other; 25 units will fit two abreast on special railroad cars and 10 will go aboard the average truck trailer bed, the announcement states. Two inverting machines have been designed to permit dumping by one operator. The units can be hermetically sealed so that many hygroscopic, hazardous or toxic materials may be shipped with safety, states the announcement. Secure complete details by checking No. 6530 on the coupon and mailing it to this publication.

No. 6528—Tractor-Shovel Attachment

The Frank G. Hough Co., subsidiary of the International Harvester Co., announces that the entire line of four-wheel drive "Payloaders" tractor-



shovels will offer "Drott 4-in-1" buckets as optional equipment. The identification "4-in-1" implies that the attachment can be used as shovel, clamshell, scraper or bulldozer, according to the company's announcement. Additional information may be obtained by checking No. 6528 on the coupon. Clip and mail it to Croplife.

No. 6527—Fertilizer Additive

A product called "FN-513," recommended as a fertilizer additive, has been announced by the agricultural division of the Ferro Corp. It should be mixed with fertilizer in quantities ranging from 30 to 50 lb. per ton, depending on the prevailing rates of fertilizer application. The product "maintains the fundamental slow-soluble safety principle of FTE" (fritted trace elements), according to the company's announcement. It contains 2.8% boron and 4.8% manganese. Secure complete details by checking No. 6527 and mailing the coupon.

No. 6531—Monthly Bulletin

The Gates Rubber Co. has a monthly publication, Tank Talk, which is available without charge to those interested. The bulletin contains information about fertilizer solution storage. To secure the bulletin monthly check No. 6531 on the coupon and mail it to Croplife.

No. 5622—Weighing Belt Feeder

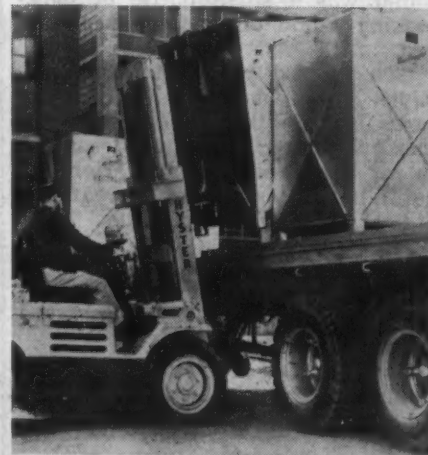
The Thayer Scale & Engineering Corp. has developed a new continuous weighing belt feeder for the basic material processing industries. Based on the patented Thayer leverage system, which has no knife-edge pivots, the unit is claimed to have outstanding accuracy and performance characteristics. Knife-edge pivots have been eliminated. The continuous weighing feeder has been designated as model 1200C and can be furnished for handling materials such as rock salt, phosphate rock dust, ammonium nitrate and other fertilizers, grains, flours and other material which may have flow characteristics varying from free-flowing to sticky. The unit can be furnished in various sizes for han-

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6530—Portable Steel Bin

A new portable steel bin for storage and shipment of granular or powdered materials has been announced jointly by the Delta Tank Manufac-



turing Co., Inc., and the chemicals divisions of the Food Machinery & Chemical Corp. The multi-purpose weatherproof bin is trade-named the "Deltainer" by the Delta firm and forms the basis of Food Machinery & Chemical Corporation's "Uni-Hopper" system for shipping. "When shipped

Send me information on the items marked:

- | | |
|---|--|
| <input type="checkbox"/> No. 5615—Seed Protectants | <input type="checkbox"/> No. 6528—Attachment |
| <input type="checkbox"/> No. 5619—Sack Cleaner | <input type="checkbox"/> No. 6529—Soil Fumigant |
| <input type="checkbox"/> No. 5622—Belt Feeder | <input type="checkbox"/> No. 6530—Steel Bin |
| <input type="checkbox"/> No. 5624—Conveyor | <input type="checkbox"/> No. 6531—Monthly Bulletin |
| <input type="checkbox"/> No. 6524—Pyrethrum Booklet | <input type="checkbox"/> No. 6533—Valve Manifolds |
| <input type="checkbox"/> No. 6525—Soil Product | <input type="checkbox"/> No. 6534—Weed Control |
| <input type="checkbox"/> No. 6526—Nematode Chart | <input type="checkbox"/> No. 6535—Crow Repellent |
| <input type="checkbox"/> No. 6527—Additive | |

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COMPANY

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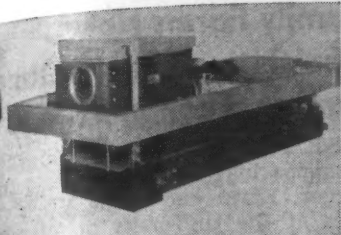
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Croplife

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Reader Service Dept. Minneapolis 1, Minn.



off, seedling blight and root rot. Secure more complete details by checking No. 5615 on the coupon and mailing it to this publication.

No. 5624—Conveyor

The Burrows Equipment Co. has developed a conveyor, called by the trade name, Cost Cutter, for the feed and fertilizer trade. The conveyor has either aluminum, steel or stainless steel frame and is available in 8-18 in. belt widths and lengths of 4-40 ft. One of the 22



standard undercarriages can meet any special application, it is claimed. The streamlined light weight unit has no sharp corners and features a direct chain drive from gear motor to sprocket which eliminates the use of V-belts and countershafts, it is announced. To secure a 4-page booklet and complete information check No. 5624 on the coupon, clip and mail it.

No. 6524—Pyrethrum Booklet

African Pyrethrum Development, Inc., has prepared a booklet entitled "Pyrethrum Facts for 1957" and describes it as the "authorized and authoritative wrap-up of pyrethrum covering the current crop year. "The booklet includes such information as: Applications, development, formulations in which it is used as a base, production and sales figures and the production outlook. The booklet is available without charge. Check No. 6524 on the coupon and mail it to Croplife.

No. 6529—Soil Fumigant

New literature has been prepared by the Stauffer Chemical Co. about a soil fumigant, trade-named, Vapam. The product will control perennial and annual broadleaf weeds and grasses including germinating seeds, soil fungi causing seed rot, damping-off and wilt, nematodes that attack plants and soil inhabiting insects, according to the literature. The literature has sections devoted to a description of the product, where it can be used, rate of application, how to use it, special problems in usage and safety precautions. Secure the literature by checking No. 6529 on the coupon and mailing it to Croplife.

No. 6526—Nematode Chart

A new nematode chart intended to be used as a quick and handy reference to more than 50 species of nematodes, their common names and the plants they attack has been prepared by the Shell Chemical Corp. The chart can be used on the wall or underneath the glass top of a desk. Listed on the chart are cyst forming nematodes (cysts cover the eggs), endoparasitic nematodes (those that enter the root tissue or permanently attach themselves to it) and ectoparasitic nematodes (those that feed on the root surface and normally do not enter the root tissue). Included also are above-ground feeders. The chart may be secured without charge by checking No. 6526 on the coupon and mailing it to Croplife.

No. 5615—Seed Protectants

Two seed protectants for slurry application are now available from Panogen, Inc. They are trade named Panoram D-31 and Panoram 75 and are said to possess excellent suspension qualities. Panoram D-31 is a combination insecticide-fungicide and is recommended as a seed treatment for corn, soybeans, sorghum, beans and peas. Active ingredients are thiram and dieldrin. Thiram protects against various seed and soil-borne diseases, while dieldrin protects seeds and seedlings from injury by wireworms, seed corn maggot and other destructive soil-dwelling insects. Panoram 75 is a seed disinfectant for treating corn, rice, sorghums, soybeans, grasses, legumes and vegetables. Active ingredient is thiram. The manufacturer says Panoram 75 can be expected to increase stands and improve yields by protecting from seed and soil-borne diseases causing seed decay, damping-

No. 5619—Sack Cleaner

Bulletin 157-A is a new publication released by Sprout, Waldron & Co., Inc., which gives the details on its line of sack cleaners. All of the units of these sack handling systems are steel constructed and are such that installation can be made to suit any available space or individual preferences. The cleaning cage of each sack cleaner can be located in any corner of a building, warehouse or outside on a loading platform with the fan and collector placed overhead nearby or at some remote point. A safety cage or basket is provided on each of these units to prevent sacks from entering the system. The bulletin will be sent if you will check No. 5619 on the coupon and mail it to this publication.

No. 6525—Soil Product

The Smith-Douglass Co., Inc., is producing a product trade-named Nutro Soil Corrector. Company officials say that the product is "a combination of plant food elements with neutralizing qualities for sour and mineral deficient soils" and is intended for home and garden use. "An increasing tendency toward sour and mineral deficient soils prompted research which developed the new product," company officials said. Secure complete details by checking No. 6525 on the coupon. Clip and mail it to Croplife.

SOIL AUGER CEASES

AMHERST, MASS.—"The Soil Auger," which has been published since 1940 by the Massachusetts Extension Service, has been discontinued with the Dec. 28 issue. Editor of the publication since its start has been Dr. Arthur B. Beaumont, who is retiring from the Soil Conservation Service. Successor to "the Soil Auger" will be a quarterly extension publication with a broader scope of conservation interest, Dr. Beaumont said.

Monsanto Names Two To Inorganic Chemicals

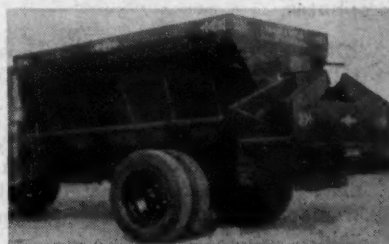
ST. LOUIS—Monsanto Chemical Co. has announced two appointments to the sales department of the Inorganic Chemicals Division. They are Norman L. Case and James A. Oates.

Mr. Case, who received a B.S. degree in chemical engineering from the University of Nebraska in 1951 and a master's degree in business from Northwestern University in 1956, is joining the division at St. Louis. Mr. Oates, who has a B.S. in agriculture from Texas A&M (1948), for eight years had been assistant division manager for Armour Fertilizer Works, Dallas. He will be stationed in El Dorado, Ark.

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Adams & Doyle fertilizer and limestone spreaders are first choice with custom spreaders, fertilizer dealers and large farm operators. Capable of spreading from 100 lb. up to 4 tons per acre. Precision built gear cases. Hood unfolds to 20 feet wide with open ends for 10 to 15 feet extra coverage.

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ARMOUR FERTILIZERS SELL EASIER!



The dealer who handles Armour Fertilizers makes extra sales...extra profits because Armour's sell easier.

- Armour is one of the leading advertisers in the farm field.
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- Your prospects have successful neighbors who use Armour's—and who testify to Armour's superiority.

For further information contact Armour Fertilizer Works, P. O. Box 1685, Atlanta, Ga. or your nearest Armour Fertilizer Works office.

SELL THE ONE THAT'S EASIER TO SELL—ARMOUR'S

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Estimated consumption of fertilizer materials for the year ended June 30, 1956, indicated a drop of 2.8%. The report was compiled by Walter Scholl, Esther I. Fox, Hilda M. Wallace and Florence Grammatte, fertilizer and agricultural lime section, Soil and Water Conservation Research Branch, ARS, USDA. Consumption was estimated at 22,096,000 tons, which was 628,000 tons less than that of the previous fiscal year.

A new bill (HR 3011) was introduced into Congress to provide an acreage allotment of 51 million acres for the 1957 corn crop. An accompanying requirement was that 15% of such acreage would have to be placed in the soil bank as a condition of price support at \$1.86 a bu.

Shell Chemical Corp. held a nematology workshop in New York, attended by some 200 persons. Present were pesticide formulators, dealers and allied personnel. Speakers included college plant pathologists and Shell technicians.

The President's budget message was interpreted to shed light on the Great Plains area where drouth conditions have all but killed agricultural sales. The new \$20 million program over the Dakotas, Colorado, Kansas, Montana, Nebraska, Oklahoma, Texas and Wyoming is set for an indefinite period.

The Mississippi Insect Control Conference was held at State College, with speakers from the state experiment station predicting a much greater use of phosphates in boll weevil control in case heavy infestations build up on the 1957 crops. Warnings were also sounded as to the exercise of care in handling phosphates.

Farm Chemical Resources Development Corp., Denver, awarded a contract to MacKenzie & Whittle of Dallas, Texas, for digging a shaft into its potash deposits near Carlsbad, N.M.

Grasshoppers were said by USDA to pose serious threats to western and midwestern farmers and ranchers in 1957. Mormon crickets are also expected to become troublesome in a half-dozen western states, particularly Montana, Nevada and Wyoming, USDA said.

Production of coke-oven ammonium sulfate in November, 1956, dropped by 7,344,791 pounds from the same month of 1955, the Bureau of Mines reported.

Dr. J. F. Fudge, Texas state chemist, told a group at the Texas Fertilizer conference that "If we moved the amount of nitrogen which farmers could use profitably, we'd be in short supply." The conference was held at College Station, Texas.

A bill introduced into Congress proposed an examination of TVA's fertilizer manufacturing activities from the standpoint of determining the real costs involved in production; how these factors should be taken into account in reaching a price for the fertilizer material; and the approximate annual amount of taxes which would be obtainable if the fertilizer production facilities were owned by private enterprise. The bill was introduced by Bruce Alger, Texas Republican.

Diamond Black Leaf Co. began a major modernization-improvement program at its plant in Des Moines, Iowa.

Four New England chemical and fertilizer companies merged as of Jan. 1. They are Apothecaries Hall Co., Waterbury, Conn.; Rogers & Hubbard Co., Portland, Conn.; Woodruff Fertilizer & Chemical Works, Inc., North Haven, Conn.; and the Old Deerfield Fertilizer Co., South Deerfield, Mass. The name of Apothecaries Hall Co., the surviving corporation, has been changed to Hubbard-Hall Chemical Co.

A newly-formed enterprise at Seattle, Washington, was begun Jan. 2 with a new line of products for farmers and gardeners in the Pacific Northwest. Known as Pacific Agro Co., the company's officers are R. W. Cool, Tonasket, Wash., president; Robert H. Allard, vice president and general manager; and Lee Fryer, vice president and manager of the plantfoods division.

Over 2 million acres of forest land were treated for the control of insects and plant diseases during 1956, USDA announced.

Farms reporting in the recent U.S. bureau of the census survey showed that they increased fertilizer consumption by about 50% in the ten year period between 1944 and 1954. Industry leaders were quoted as looking on the future of fertilizer sales with optimism. The need for lowering unit cost of producing farm products will make fertilizer use an increasing necessity in the future.

Sam L. Nevins, vice president of Olin Mathieson Chemical Corp. stated that the adoption of NPK symbols for expressing plant food values would give manufacturers of chemical fertilizers the "greatest boom in their sales history." He said that the present system of reporting fertilizer components as oxides is confusing and unnecessary.

The Entomological Society of America in its annual meeting in New York, reported results of insecticidal experiments conducted during 1956 in various parts of the country. Systemics, granules, and soil insecticides were pointed out as being increasingly important in pest control.

Santford Martin, Jr. was appointed head of publications and director of publicity for the American Potash Institute, Washington, D.C., the Institute announced. He succeeds R. H. Stinchfield, who retired Jan. 1 after having held the position since the Institute was formed in 1935.

Carry-over stocks of pesticides as of Sept. 30, 1956, were larger than they were on the same date in 1955, the USDA announced. Carry-overs in the hands of basic producers increased more than did formulators' inventories, the report said. Some chlorinated hydrocarbons were up over 90%, whereas formulators' stocks increased only 20%.

Irrigation Farming Opening New Frontiers, Kansas Group Told

MCPHERSON, KANSAS—Irrigation farming when practiced throughout a farm community will stabilize the community's economy at a high level, Dr. G. G. Williams of Olin Mathieson Chemical Corp. told the Central Kansas Irrigation Association at its annual meeting here recently.

Control over soil moisture, Dr. Williams points out, enables the farmer to plant with confidence that he will make a crop.

Dr. Williams defines an irrigation farmer as one who constantly checks soil moisture. He contrasts this type with the "supplemental irrigator" who watches the sky and irrigates only when he thinks it won't rain.

Successful irrigation farmers, he said, keep all production factors at an optimum. Proper drainage, adequate amounts of fertilizer, proper plant population, disease and insect control and other good management practices become musts.

"Irrigation farming is opening vast frontiers of development in many parts of the country today," he said. "By offering a way to maximize production, it assures the income of both the farm family and the whole agricultural community."

"It further offers farm cities a stable income and a means for growth. This growth follows because the number of farm families will increase. An irrigated agriculture is more intensified and therefore requires fewer acres to support a farm family."

Dr. Williams points out that examples of the wealth derived from irrigation water are now commonplace throughout the nation.

"They are found," he said, "in Kansas, Nebraska, Oklahoma, Texas and of course in the Far West. More recently, however, examples are to be found in the heavy rainfall areas of the East."

"Within the last three or four years one very excellent county agent in Arkansas has sparked irrigation so much that most good cotton farmers in his county now are irrigating. This increased income during the normal years as well as drouth years definitely is having its effect on the overall community."

"The Chamber of Commerce in that area is now just as sold on irrigation as are the farm families directly involved. This is occurring in an area where the expected rainfall is forty inches or more per year, not twenty inches."

Dr. Williams points out that irrigation is one of the oldest of farming practices, yet the development of sprinkler irrigation in the humid eastern half of the United States has taken place since World War II.

Vincent L. Rebak Heads Chemical Salesmen's Group

NEW YORK—Vincent L. Rebak, New York district sales manager for Grace Chemical Co., a division of W. R. Grace & Co., was inducted Jan. 24 as the 1957 president of the Salesmen's Association of the American Chemical Industry. The installation took place at a luncheon meeting in the Hotel Commodore here.

Robert J. Roberts of Emery Industries, Inc., took office as SAACI's vice president. James E. Spencer of Harshaw Chemical Co. is the new association treasurer, while George W. Poland, Jr., of E. M. Sergeant Pulp & Chemical Co. will serve as secretary of the organization for the coming year.

Installed as SAACI directors for two-year terms were the following: Jerome F. McGinty of Millmaster Chemical Corp.; L. P. London of E. I. duPont de Nemours & Co.; Stewart Cowell of J. T. Baker Chemical Co.; John Seidler of Whittaker, Clark & Daniels, Inc., and Frederick A. Koch of Dow Chemical Co.

Family Farms Not Vanishing—Just Getting Larger, Economist Says

ST. PAUL—The family farm isn't disappearing; it's really just getting larger, Farm and Home Week visitors at the University of Minnesota were told recently.

O. B. Jesness, head of the University's agricultural economics department, said that "farms today are more entitled to the designation 'family farms' than those of yesterday."

That, Mr. Jesness said, is because there is a modern trend toward fewer hired farm workers than ever. If corporate farming were taking over, there would be more—not fewer—hired workers on farms, he pointed out.

The trend to larger farms is apt to continue, Mr. Jesness said, because "many units today are too small for efficient use of modern machinery and technology. Many farms need to grow larger to replace wear and tear on human beings with labor saving machinery."

"Those who would restrict the size of farms by some arbitrary limit overlook the fact that farmers are not standardized. The best guide to desirable farm size is that the farm should fit the capacity and ability of its operator."

Mr. Jesness said there was a definite advantage in the recent farm-to-city migration. "Had the trend been halted in 1910 there would be 50 to 60 million people on farms to claim a share of smaller total income than that now divided among 22 million," he said. "Without this migration, we couldn't have developed industries so highly, and automobiles would have been a rarity rather than a necessity."

In most cases, communities gain rather than lose from this migration, he said. "The smaller farm population with larger per capita incomes will provide expanded demand for many goods and services."

We need to develop more agricultural adjustment programs so that we don't have to rely on "warehouse-filling price supports," Mr. Jesness said. "There has been entirely too much emphasis on trying to influence prices by price supports," he declared. "We need to shift our efforts to bring agriculture into better adjustment with available markets."

"But that doesn't mean we should put all price supports in the ash can. Sudden removal of them would mean chaos in wheat and cotton markets with the heavy carryovers in government hands. What we need to do is to bring output into balance with available markets so that we will not have to depend on price supports."

Dow Uses Radio For Sales Meetings

MIDLAND, MICH.—An innovation in sales meetings has proved a big success for the agricultural chemical sales department of the Dow Chemical Co. The department employed a closed circuit broadcast over the American Broadcasting Co. radio network to outline sales support to distributors. The broadcast was heard by over a thousand distributors and their salesmen at 35 meetings in ABC-affiliated radio stations over the country. A district salesman chairmanned each local meeting.

The meetings were successful, Howard Sheldon, merchandising manager, reports. The program was opened by Donald Williams, vice president and sales director for Dow, with W. W. Allen, agricultural chemical sales manager, acting as moderator. Glen Gullikson, manager of farm use chemical sales, and Mr. Sheldon explained national and regional advertising support and point-of-purchase sales aids planned for the year.

BOOK REVIEW - - -

"The World Fertilizer Economy" by Dr. Lamer, a publication of the Food Research Institute of Stanford University; 715 pages, price \$12.50.

The author was formerly acting associate economist in the Food Research Institute and presently economist at the Council for Economic Industry Research and lecturer in economics at Howard University, Washington, D.C.

In addition to data on production, consumption, trade and price in connection with fertilizers, the book gives adequate attention to technical knowledge concerning the functions of fertilizers in plant growth.

The book's scope of inquiry is worldwide, with consideration being given to fertilizer uses and fertilizer problems in each of the world's significant producing and consuming countries, both in war and in peace. In particular, Dr. Lamer's study fills a gap in Western knowledge of developments in the Soviet Union, a lack for which the author's familiarity with the Russian language and Russian economic history equips him peculiarly well.

Thirty-two chapters are in the volume. They cover the origin and classification of fertilizers, availability of plant nutrients in manures and fertilizers, yield responses, consumption, and potential fertilizer production.

International trade in fertilizers is also covered in chapters which discuss competition among fertilizers; trade agreements among fertilizer nations before World War II; the new wartime fertilizer pattern in belligerent countries; the basic fertilizer triangle of the Allies: the U.S., the U.K. and Canada; allocations and price control.

The book also covers fertilizer studies in the British Dominions; Europe in the Axis orbit; European neutrals and nonbelligerents during World War II.

The Soviet Union is given many pages of space in outlining its production facilities, its mines, its industries before World War II and since and various comparisons. Fertilizer use in the USSR is discussed in detail, with attention being given to soil and fertility, moisture, crop rotation, nutrients derived from manure and peat; actual application of manures and fertilizers on crops; minor elements; and a general survey of fertilizers, yields and methods.

Fertilizers in other countries are discussed at length also, including a chapter entitled "Fertilizer Trusts and Cartels" in which the dissolution of I. G. Farben is described. National and international associations and agreements are also described.

The author's major purpose is to show what changes World War II brought about in the forms and uses of commercial fertilizers. He presents not only complete statistics on fertilizer production, consumption and foreign trade, but also much valuable information in the fields of soil science, plant physiology, chemistry, and manufacturing processes.

In suggesting the possible development of commercial fertilizers in the future, the author states that "Increasing food production by increasing the use of fertilizer seems often to be a better road to agricultural and national welfare than building up electric power plants, roads, and machine industry and relying on gifts of food from well-to-do countries."

"The World Fertilizer Economy" can be obtained through Croplife's Reader Service Dept. The price is \$12.50.

ASC CHAIRMAN

PORTLAND, ORE. — Robert T. Oster, Paulina cattleman, has become new chairman of the Oregon Agriculture Stabilization and Conservation committee. He succeeds E. Harvey Miller, retired, in accordance with the rotation policy now in effect for state committeemen.

CFA Soil Improvement Committee Outlines 1957 Work Program

SAN MARINO, CAL.—A comprehensive work program for 1957 was outlined by the Soil Improvement Committee, California Fertilizer Assn., at its first meeting of the year, held in Los Angeles Jan. 10. Committee chairman is Millard E. McCollam, western manager of American Potash Institute, Inc., San Jose. Vice chairman for southern California is R. L. Luckhardt, Brea Chemicals, Inc., Los Angeles. Northern California vice chairman is Earl R. Mog, Growers Fertilizer Co., Stockton.

Mr. McCollam has appointed the following working sub-committees:

California Fertilizer Conference & Joint Industry—University Meetings —J. H. Nelson, Stockton, chairman.
Vocational Agriculture — Forrest

Fullmer, Newport Beach, chairman.

Western Fertilizer Handbook — Earle J. Shaw, Los Angeles, chairman.

Research Grants and Special Funds for the University — Russell White, San Francisco, chairman.

Securing an agronomist for the committee staff—Dr. Malcolm McVickar, Richmond, chairman.

Audio-Visual Selling Aids—R. L. Luckhardt, Los Angeles, chairman.

Workshop Series—R. L. Luckhardt, chairman.

Fertilizer Guarantee Changes — Douglas Jamison, Spokane, Wash., chairman.

An important 1957 program will be the fifth annual California Fertilizer Conference, to be held on the campus of Fresno State College, Fresno, on April 15. About 300 persons interested in the technical aspects of soil fertility and plant nutrition will attend. They will include fertilizer company

CROPLIFE, Feb. 4, 1957—23

management, salesmen and dealers; technicians on the staffs of California's schools giving agricultural courses; and farm organizational leaders and their members.

Other projects will include the preparation of an illustrated range fertilization booklet for salesmen; an illustrated brochure on fertilizer application equipment and methods; workshops for training of fertilizer salesmen and dealers; the annual fertilizer essay contest among regular students of vocational agriculture in California's junior colleges; securing and establishing within the committee framework of a qualified agronomist; four \$100 scholarship awards to deserving soils and crops students of California State Polytechnic College; and continuing close collaboration with scientists of the University of California with reference to fertilizer research to be carried on under the \$4,000 grant-in-aid made by the committee.



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Business Decisions That Affect Your Tax Return

EDITOR'S NOTE: Year-around tax thinking is recommended by the accompanying article, based on information supplied by the American Institute of Accountants, the national organization of certified public accountants, and checked for technical accuracy by the Internal Revenue Service.

Long-range tax planning in today's business world of high tax rates is no longer "big business foolishness." Last-minute tax worrying with no year-around tax thinking can result in the loss of sizeable savings for small and medium-sized businesses when it comes time to file a tax return.

For example, assume that last summer you were forced to replace your air conditioner. You shopped around and found you could either sell your old unit to a private party for \$500, or a dealer in town would give you a trade-in allowance of \$500 on it. That seemed like six-of-one-half-a-dozen-of-another to you; so without thinking—or worrying—about tax matters you traded in the old air conditioner.

To prove how such a seemingly simple business decision such as this can affect how much tax you will have to pay, let's assume further that the air conditioner which you traded had originally cost \$2,500 and that you had taken \$1,000 in depreciation on it. This meant its cost for tax purposes was \$1,500, and you were going to "lose" \$1,000 whether you accepted the dealer's trade-in allowance of \$500 or sold to the private party for \$500.

So far still six-of-one-half-a-dozen-of-another, but now since you elected

to trade in your old air conditioner, let's see how you can claim a deduction on a tax return for your \$1,000 loss. The answer is simple. You can't. All you can do is add the amount of the loss to the cost of your new unit, and eventually receive tax credit for your loss in the form of slightly higher depreciation deductions.

On the other hand, if you had made a bona fide sale of your old unit to the private party and a separate purchase of a new unit from a dealer, you would have established a \$1,000 loss which could be claimed as a loss deduction on a tax return and used to offset regular income.

Selling vs. Trading Property

It is not always true, of course, that a loss deduction on the tax return is worth two in the bush of depreciation, but a general rule to consider when you are trying to decide whether it would be more advantageous taxwise for you to sell or trade in an asset is: Sell "loss" property to obtain a deduction, and trade "profit" property to avoid the tax which must be paid on any profit realized from the sale of an asset.

You may find that you have sold yourself into a capital gains tax or traded yourself out of a loss deduction if you have not figured your depreciated costs correctly. This is a matter you can discuss with a certified public accountant. Tax authorities can verify the accuracy of your mathematical computations and can also explain the advantages and disadvantages of the various methods used to compute depreciation. It could be that the method you used or are using is not the one most suit-

ed to your business needs from a tax standpoint.

For example, if you asked a tax expert whether you should use the straight-line or declining balance method to depreciate your new air conditioner, one of the first questions he might ask you would be: "What are your cash requirements and what are your profits likely to be?" If you are thinking of expanding and need additional cash within the next few years, he might recommend that you use the "new" declining balance method to compute depreciation.

The declining balance method "speeds up" or increases depreciation rates. This starts the chain reaction to your objective of retaining cash in the business, because when you increase depreciation rates you also increase allowable depreciation deductions on your tax return. The amount you may write off the first year is twice what it would be if you used the straight-line method; so by applying a \$1,000 instead of \$500 depreciation deduction against your regular income, you are going to reduce your taxes, and cash that does not have to be paid out in federal taxes can be retained in the business for expansion purposes.

Consider Earnings First

It seems all good things eventually come to an end, however, and while in the first year the declining balance depreciation rate may be double that of the straight-line, this differential diminishes in succeeding years until declining balance deductions are even less than they would be under the straight-line method. That is why it is important that you consider current and future earnings before you select a depreciation method.

For example, if your current earnings are low, or if you are putting in a new line of merchandise and the results of this expansion will take a few years to show in your earnings, it might be more advantageous taxwise for you to use the straight-line method of computing depreciation.

The straight-line method does not "speed up" depreciation deductions. It spreads them out equally over the estimated useful life of the asset; so when you use a straight-line method you are saving, in a sense, for a rainy day. When your earnings improve or increase, you will have more substantial depreciation deductions to apply against those earnings. There usually is no point in increasing a loss or reducing low earnings by claiming additional depreciation deductions when you do not need them.

A point to remember when you are trying to decide whether to buy new or used equipment is that second-hand equipment must be depreciated by the straight-line method. This tax factor should be considered, because loss of the opportunity to use the declining balance method with its rapid write-off feature may cancel any immediate savings effected by the purchase of used equipment.

The matter may have been decid-

ed and forgotten many years ago, but a basic question businessmen should consider from time to time—and one which has many tax implications—is whether to do business as a proprietorship, partnership or corporation. There may be personal or professional factors that force the selection and maintenance of a noncorporate form of organization, but depending on the earnings of the business and the amount of those earnings you may need to withdraw, there are certain tax advantages to be gained by incorporating a new or expanding company.

Since proprietorship and partnership income is taxed at individual rates, which range anywhere from 20% to 91%, and corporation earnings are taxed at corporate rates of 30% on the first \$25,000 earned during the year and 52% on the excess, it might appear that if you have relatively low income the proprietorship-partnership rates are lower. However, you must also consider that the corporate tax carries with it the privilege of deducting a reasonable salary paid to an employee-owner. The employee-owner has to pay a personal tax on his salary, of course, but if he were not incorporated, he would have to pay a personal tax on all the money earned by the business.

If the retained earnings of the company are taxed at a corporate rate which is lower than what the personal tax rate would be, the employee-owner would benefit by having additional funds available in the corporation for expansion purposes. These funds may be accumulated in a corporation up to \$60,000 without further tax penalties; and even higher if the corporation can prove a need for them.

These advantages—while they may cut your current tax bill and increase working capital for expansion needs—can be lost if you have jumped into a corporation without first reviewing your own long-range cash requirements. If you are continually forced to withdraw money from the corporate earnings to pay personal expenses you will have to withdraw these funds in the form of dividends. That means the corporation will have to pay tax on the earnings you are withdrawing as dividends, and you will have to pay tax on the dividends received. The "double tax" on earnings and dividends can nullify any tax advantage from incorporation when earnings must be withdrawn immediately as dividends.

AACCO Plants Set New Safety Records

NEW YORK—New safety records were reported this month at three plants of The American Agricultural Chemical Co. The Spartanburg, S.C. plant has had no lost time injuries for the fourth year in a row. Plants at Savannah, Ga. and North Weymouth, Mass. have each completed one year with no lost time injuries.

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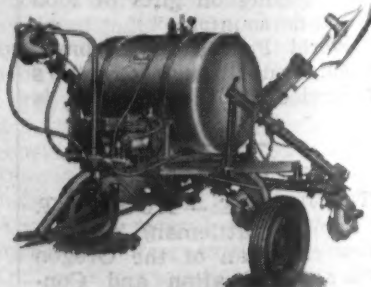
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NORTHWEST MEETING

(Continued from page 1)

lb. actual toxicant an acre was the only insecticide to give any degree of control.

D. G. Finlayson of the Dominion entomology laboratory, Kamloops, B.C., told about tests made for maggot control on onions grown from seed. He indicated that yields of marketable onions produced in plots treated with dieldrin, endrin and heptachlor were much greater than those of their respective checks in mineral or peat soils. Yields for malathion-treated plots in both types of soil were about the same as their respective checks.

A. T. S. Wilkinson, Vancouver, B.C., told those attending the 16th annual Pacific Northwest vegetable insect conference that in European wireworm control experiments, a

single soil application of aldrin dust or emulsion or heptachlor dust each at 5 lb. toxicant an acre gave good protection on potatoes the first year (1953) and a 100% reduction of the population in forage crops by the second or third year. These treatments continued to give complete control in 1956, Mr. Wilkinson said.

H. E. Morrison and Molton Savos of Oregon State College summarized 1956 symphyliid investigations. They reported parathion has now been used experimentally for symphyliid control for three years. This toxicant was registered for use as a soil treatment early in 1956 and now has been used commercially for at least one season. Most growers have been satisfied with the performance, they said.

Homer R. Wolfe of the Wenatchee, Wash., tree fruit experiment station, said that spraying of cover crops in orchards with endrin looks very promising as a good control measure for mice. He indicated research is being

conducted to determine the minimum dosage necessary for control under different conditions, so that danger to humans, animals and game birds will be at a minimum.

He reported two pints of endrin emulsion (containing 1.6 lb. actual endrin per gallon) with 100 gal. of water sprayed on the cover crop until thoroughly wet, gave a 100% mouse kill in most cases. Heavy mouse infestations were wiped out overnight in many test plots. Residual action depends upon the weather, but good kill of mice is usually obtained for three weeks and often for a month.

The vegetable insect conference heard Mr. Morrison and B. G. Thompson, also of Oregon State, report that the performance of metal chelates in suppression of both hop aphids and red spider mites may set the stage for a new approach to the hop pest control problem.



C. E. McCabe

NEW ASSIGNMENT—The sale of Chase Bag Co. products in northern Ohio will now be handled by C. E. McCabe, sales representative for the firm since 1947. Announcement of new assignment was made jointly by W. N. Brock, vice president and general sales manager, and D. R. Brock, sales manager of the firm's Cleveland branch. After service in the Marine Corps during World War II, Mr. McCabe became associated with Chase Bag at its Buffalo branch. He later was connected with the Cleveland sales office, and since then has handled sales in the Bakersfield, Cal., area.

Chem Conference for Texas A&M

DUBBOCK, TEXAS—The fourth annual Agricultural Chemicals Conference, sponsored annually by Texas Tech, Texas A&M College and the West Texas Chambers of Commerce, will be held at Texas Tech, Feb. 12-13.

Registration will be held in the Brook Hotel from 5 to 7:30 p.m. on Feb. 12, with the conference beginning the next morning at the Student Union Bldg. on the college campus.

The opening session will feature a speech by J. G. Boswell, manager of the J. G. Boswell Ranch at Marienette, Ariz., whose speech is titled: "Can I Grow Five Bales of Cotton Per Acre?" The opening program will be presided over by William B. Ennis of the U.S. Department of Agriculture, Beltsville, Md., who will talk on "Chemicals in Modern Weed Control."

Chairman of the opening meeting will be Dr. A. W. Young, head of the agronomy department of Texas Tech, who is doing much of the work planning for the big meeting.

CENSUS

(Continued from page 1)

me classes, the report shows. The report lists total fertilizer use in the U.S. in 1954 at 18,953,360 tons. This is about 15% below totals previously shown in U.S. Department of Agriculture statistics. The difference is caused by the exclusion by the Bureau of Census of dried manure, secondary and trace nutrient materials and fertilizer for non-farm and under-reporting of the quantity of basic slag used.

According to the Census report, use of lime and liming materials in 1954 amounted to 17.3 million tons, more than double the 8.5 million tons reported in 1939. Consumption in the northern Plains increased 10-fold during this period and use in the southern states rose 7-fold. In the Mountain states there was a decrease of 75%. Illinois, with 2.5 million tons, was the biggest lime user.

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We're telling the story of Sohigro and deep-feeding action . . . of Sohigro, the gentle-acting nitrogen that's easy on equipment . . .

best for plants . . . helps build up soils . . . helps carry crops through drouth periods. We're telling the story about easy-to-use Sohigro, the labor-saving, leach-resistant, quick-acting, long-lasting, free-flowing, concentrated 45% nitrogen fertilizer.

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Industry Patents and Trademarks

2,778,712

Digestion of Phosphate Rock. Patent issued Jan. 22, 1957, to Paul Caldwell, Evergreen Park, Ill., assignor to Cannac Research and Development Co., a joint venture. In the production of tricalcium phosphate in the form of a precipitate obtained by ammoniation of an acidic aqueous medium resulting from the nitric acid digestion of fluorine-containing phosphate rock, said aqueous medium which is subjected to ammoniation containing the acid-solubilized calcium and phosphorus components of the rock in proportions such that the calcium component is present in amount substantially sufficient to combine with the phosphorus component in the form of tricalcium phosphate, the improvement which comprises imparting to the thus-precipitated tricalcium phosphate product an increased resistance to reversion to a citrate-insoluble phosphatic product during subsequent drying by adding to said calcium-containing aqueous medium prior to ammoniation an amount of potassium chloride sufficient not only to provide a stoichiometric equivalent for the acid-soluble fluorine component of the rock in the form of potassium fluosilicate but to further provide from about one third mol to about one and one half mols of potassium chloride per mol of calcium nitrate in said aqueous medium.

2,778,722

Defluorination of Phosphate Rock. Patent issued January 22, 1957, to Clinton A. Hollingsworth, Lakeland, Fla., assignor to Smith-Douglass Co., Inc., Norfolk, Va. The method of defluorinating by calcination, phosphate rock containing fluorapatite, which comprises loosening the fluorapatite lattice prior to calcination by treating the phosphate rock with an aqueous solution of hydrochloric acid in amount of from 10 to 30% by weight of HCl based on the combined weight of rock and HCl, subjecting the treated rock to a drying operation at a temperature within the range of 200 to 800° F. in the course of which more than half of the hydrochloric acid admixed with the rock is volatilized, and calcining the dried rock without substantial fusion at a temperature of at least 2400° F. in the presence of water vapor and thereby producing a tricalcium phosphate product containing less than one part of fluorine for each 100 parts of phosphorus.

2,778,733

Apparatus for the Manufacture of Urea, Formed of Aluminum Bronze. Patent issued Jan. 22, 1957, to Jean Leon Maurice Frejaques, Paris, France, assignor to Pachiney, Compagnie de Produits Chimiques et Métallurgiques, Paris, France. Apparatus for use in the synthesis of urea from ammonia and carbon dioxide, characterized in that the parts of the apparatus in contact with the hot reaction medium are formed of aluminum bronze, containing

Percent
Aluminum 8 to 10
Manganese 0.2 to 0.5
Iron 0.02 to 0.05
Constituents other than copper less than
Balance copper;
the ratio of iron to manganese, less than 0.5.

2,778,768

Pesticidal Ethylenebisdithiocarbamates with Hydroxy Ethyl Cellulose Compositions and Methods. Patent issued Jan. 22, 1957, to George Brown, Moorestown, N.J., and Edward A. Nolan, Philadelphia, Pa., assignors to Rohm & Haas Co., Philadelphia. A pesticidal composition which comprises an aqueous solution containing 17% to 30% of disodium ethylenebisdithiocarbamic acid, between 0.4% and 3.5% of the weight thereof of an alkali-soluble, water-insoluble hydroxyethyl cellulose, solved with the aid of sodium hydroxide, and between 0.1% and 2% of the weight of said ethylenebisdithiocarbamate of a compound of the class consisting of condensed naphthalene-formaldehyde sodium sulfonate and sodium lignosulfonate.

2,778,809

Method and Composition for Improvement of Soil Structure. Patent issued Jan. 22, 1957, to Donald R. Mussell, Clare, and Harold Roth, Bay City, Mich., assignors to the Dow Chemical Co., Midland, Mich. A composition for the treatment of soil which comprises a finely divided solid carrier and in intimate admixture therewith a water-soluble sulfonate of a poly(alkenyl-aromatic) compound, said poly(alkenyl-aromatic) compound having a solution viscosity before sulfonation of at least 500 centipoises and said sulfonate having a Brookfield viscosity of from about 35 to 1000 centipoises.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 170.1 to 170.5.) As provided by Section 31 of the Act, a fee of \$25 must accompany each notice of opposition.

Naco Five Star Special, in capital letters, for fertilizers. Filed Jan. 19, 1956, by W. R. Grace & Co., New York. First use, 1930. (Published in Official Gazette, Jan. 22, 1957)

Drawing of Penguin within Circle for fertilizer and fertilizer material. Filed Jan. 19, 1956, by W. R. Grace & Co., New York. First use, Jan. 1934. (Published in Official Gazette, Jan. 22, 1957)

Sohagro Urea Fertilizer Composition in design picturing farm scene, urea fertilizer. Filed Jan. 24, 1956, by Sohio Chemical Co., Lima, Peru. First use about Dec. 19, 1955. (Published in Official Gazette, Jan. 22, 1957)

Badger, in tall capital letters, for fertilizer. Filed Feb. 17, 1956, by S. Koos & Son Co., Kenosha, Wis. First use April 28, 1925. (Published in Official Gazette, Jan. 22, 1957)

Kansas Conference

MANHATTAN, KANSAS.—Kansas Pesticide Dealers and Atom Applicators Conference will be held Feb. 26 at Umberger Hotel, Kansas State College here.

CORN CONTEST WINNER

URBANA, ILL.—Norman T. 4-H Club member from Taylor, Ill., has been named winner of the trophy for highest yield in the Illinois 4-H X-tra Yield Corn Contest. His winning yield was 187.1 bushels per acre.



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Phillips 66 Ammonium Nitrate is backed by the same progressive research that has made Phillips such a fast growing organization.

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... and Phillips 66 Ammonium Nitrate offers you these big profit advantages:

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DENVER, COLO.—1375 Kearney Ave.
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—1020 E. Holcombe Blvd.
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.
KANSAS CITY, MO.—500 West 39th St.
MINNEAPOLIS, MINN.—212 Sixth St. South
NEW YORK, N. Y.—80 Broadway
OMAHA, NEB.—6th Floor, WOW Building
PASADENA, CALIF.—330 Security Bldg.

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BRIGHT FUTURE FOR DEALERS PREDICTED—A thorough discussion of fertilizer uses of the future was presented by a group of sales executives of the Nitrogen Division of Allied Chemical & Dye Corp., New York, during the recent convention of the Indiana Grain and Feed Dealers Assn. at Indianapolis. Walter S. Colvin, standing, outlined developments in the use of fertilizer in the past decade, after which he moderated a panel of four specialists who spoke on various facets of soil improvement and the place of the dealer in the future expansion of fertilizers. Left to right are Glen Reese, Hamlett, Ind., Nitrogen Div. sales representative; Earl K. McNew, Division sales supervisor, Indianapolis; Mr. Colvin; E. M. Harper, nitrogen solutions sales supervisor, and Jerry Kiefer, Elwood, Ind., also a sales representative. The group predicted that some 2 million tons of fertilizer would be used in Indiana by 1967, as compared to 1.2 million tons used presently.

Fertilizer Industry 'Just Getting Into Second Gear,' Indiana Convention Told

INDIANAPOLIS, IND.—A prediction that the grain and feed dealer will become an important cog in the development of increased fertilizer use in Indiana, was made by panel speakers at the 55th annual convention of the Indiana Grain & Feed Dealers Assn. held at the Claypool Hotel here recently. Some 600 persons attended.

"Fertilizer Uses of the Future" was the subject of a panel composed of representatives of the Nitrogen Division of Allied Chemical & Dye Corp., under the direction of Walter S. Colvin, New York. Panel members, in addition to Mr. Colvin, included Glen Reese, Hamlett, Ind.; Earl K. McNew, and E. M. Harper, Indianapolis; and Jerry Kiefer, Elwood, Ind.

The speakers predicted an important expansion in the use of fertilizer in the state during the next decade and pointed out that the grain and feed men would play an increasingly important part in this development. They explained that the fertilizer industry is in a state of "revolution" and, while usage has expanded rapidly since World War II, the industry is just now getting into second gear. Far better fertilizer products are being made now than at the close of the war, and the outlook is for a continuation of this progress.

It was predicted that the use of fertilizer in Indiana would be two million tons by 1967, as compared with 1.2 million tons consumed in 1956. With more acreage coming under fertilization and more tons per acre, this prediction was pointed out to be a realistic one.

In his portion of the program, Mr. Reese said that grain elevator operators and feed dealers should become a part of the fertilizer expansion for several reasons. First, he said, they will want to make money and provide better service to customers. "They will want to sell to create new wealth in the area, better yields, lower cost production. It will increase elevator sales such as seed, feed and stock items that farmers will buy when they come in to purchase fertilizer," he declared.

Elevators are logical dealers because managers see farmers regularly and know their requirements. Truck and warehouse space is available to handle fertilizer materials.

Farmers like to do business with good businessmen because farmers are businessmen themselves.

J. R. Kiefer, Ellwood, Ind., another panel member, pointed out that since the average dealer's trade area is considered to be a 5-mile radius, the predicted expansion in fertilizer use means that someone will sell nearly 7,000 tons of fertilizer in each agricultural community. The dealer of the future will equip himself with as thorough a knowledge of fertilizer as he now uses in the sale of feeds. He will attend meetings and conferences that will increase his knowledge of the product and by mastering the fundamentals of soil management he will open a new dimension of service and understanding of his agricultural community.

The other panel members, E. K. McNew, sales supervisor, Indianapolis, and E. M. Harper, product sales supervisor, Nitrogen Solutions direct applications, Indianapolis, said that supplies of fertilizers would be ample for the predicted expansion in demand. Mixed goods, now the backbone of the fertilizer industry, are expected to show a big increase. Liquid solutions are coming along fast because of the ease of application. There will be an increase in the number of liquid fertilizer plants in Indiana, so that each plant will concentrate in serving a local area.

ARKANSAS APPOINTMENTS

FAYETTEVILLE, ARK.—Changes in personnel of the agronomy staff in the University of Arkansas college of agriculture and home economics have been announced by Lippert S. Ellis, dean. At the alfalfa substation at Osceola, Maxie T. Taylor has been named agent agronomist, replacing Lloyd Henson who resigned last summer. At the delta substation, Dr. Robert E. Wilkinson has been named to the new position of cooperating agent in agronomy to do research on control of aquatic weeds. At Fayetteville, Charles J. Nettles has been appointed junior agronomist and instructor. Also in agronomy, Alberto J. Martini became a graduate assistant Feb. 1, replacing Joe P. Wells who completed graduate study last August. Mr. Martini will assist with research studies on the role of magnesium in plant growth under a grant from the International Minerals and Chemical Corp.

CAA Chief to Appear At Texas Conference

COLLEGE STATION, TEXAS—James T. Pyle, administrator of the Civil Aeronautics Administration, will appear on the program of the sixth annual Texas Agricultural Aviation Conference and Short Course on Pest Control at Texas A&M Feb. 24-26.

Mr. Pyle will discuss "General Aviation in the National Picture" during the conference banquet at 7 p.m. Feb. 25, in the Memorial Student Center Ball Room.

Those who attend the meeting can expect a full program of useful information throughout the conference, according to Fred E. Weick, of the Texas A&M College System's Aircraft Research Center, and also general chairman of the conference and short course.

The annual meeting, which is sponsored by the college, the Texas Aeronautics Commission, the Texas

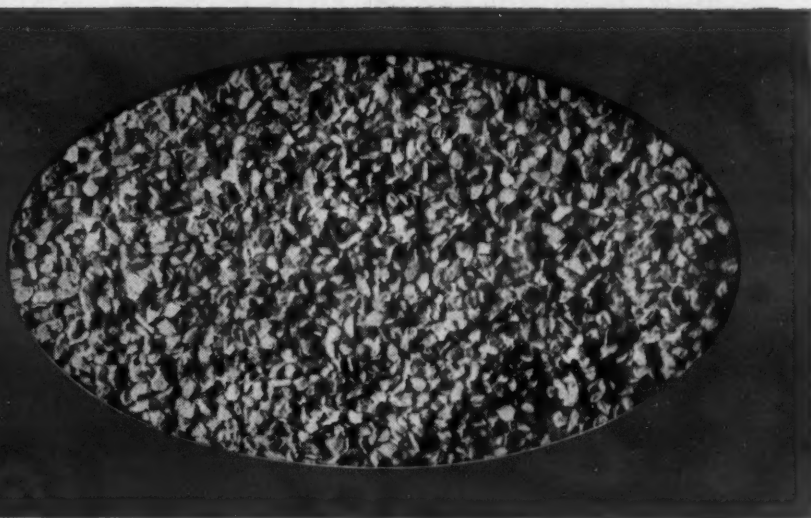
Flying Farmers and Ranchers Assn. and the Texas Aerial Applicators Assn., will start on the afternoon of Feb. 24.

The most important part of the program will be a symposium on insect control, in which six members of the Texas A&M entomology department will take part. There will also be lectures on brush and weed control, and a speech titled "A Rancher's Viewpoint on Brush Control" by H. Macon Boddy of Henrietta, Texas.

SCS APPOINTMENT

PORTLAND, ORE.—Harold E. Tower, Oregon state soil conservationist since 1953, has been named Soil Conservation Service field representative for far western states, Alaska and Hawaii. He has been with the department for 26 years. Mr. Tower succeeds Cyril Luker, who has been named assistant to the administrator for the department's great

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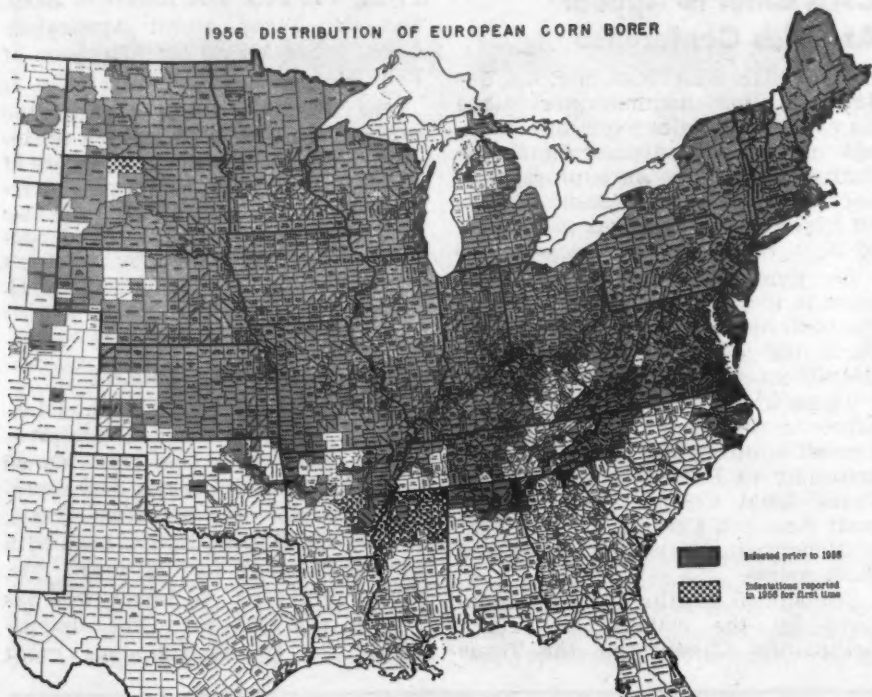
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1956 DISTRIBUTION OF EUROPEAN CORN BORER



EUROPEAN CORN BORER IN 1956—As it had done for many years previously, the European corn borer expanded its area of infestation during 1956. The above map, prepared by the plant pest survey section, plant pest control, Agricultural Research Service, USDA, shows the known distribution of the corn borer last year, as well as infestations reported for the first time in 1956. New areas of infestation are noted on the map.

CORN BORER OUTLOOK

(Continued from page 1)

agricultural agencies in 27 states last fall.

For all states surveyed, average borer numbers decreased from 147 per 100 plants in 1955, to 105 in 1956.

Borer populations have been building up in the East and declining in the North Central states since 1954. Six of 11 eastern states reporting in both 1955 and 1956 recorded important increases in 1956, with the average for all 11 states rising from 75 borers per 100 corn stalks in 1955 to 130 in 1956. Heaviest concentrations were found in New Jersey, Rhode Island, Delaware, New York, Virginia and Pennsylvania. Among eastern states, only Maryland reported a pronounced decrease under 1955.

Entomologists think persistent drouth in the Midwest is contributing to continued decline in corn borer numbers. In a dozen North Central states, the average number of borers per 100 plants dropped from 173 in 1955 to 98 in 1956. In Iowa, most heavily infested of these states, borer numbers continued to drop from 497

in 1954 to 351 in 1955, reaching 220 in 1956. In some states, less than half as many borers were recorded in 1956 as had been found in 1955. Borer counts in Illinois dropped from an average of 285 per 100 stalks in 1955 to 127 in 1956, and in Indiana from 172 to 97.

Arkansas showed only a light infestation, and no borers were found in the Oklahoma areas surveyed.

Although the borer has been found in no new states since 1953 (it is now found in 37) several states reported new county records last year, indicating continued spread.

The borers showed up in 28 new counties in Mississippi, 7 in Arkansas, and one each in Alabama and South Dakota. This brings to 1,681 the total number of counties where the corn borer is found in the U.S.

In 40 years, the corn borer has spread west, north and south from the point near Boston, where the pest was first discovered in 1917. It is a native of Europe, but has found the U.S. environment much to its liking. It now is found from Maine to Colorado and from Montana to Georgia.

WITCHWEED

(Continued from page 1)

from the areas known to be infested in the Carolinas.

After the heat of the meeting wore off, it was learned that USDA did not consider this session as one to determine if there would or would not be a quarantine of the infested areas. Rather, the meeting was merely informative, and no decision was taken. USDA sources tell Croplife that as a result of this meeting, there is no intention to invoke any quarantine at this time.

Here is the substance of the USDA position: Although only a few counties are involved in the witchweed infestation, the hazard arising from this plant to the entire Corn Belt is grave.

Witchweed can be controlled by 2,4-D when the material is applied in the plant stage.

It is understood now that USDA contemplates a cooperative campaign in areas where witchweed infestation exists, to engage the work of local farmers who will take their land out of corn production and substitute other crops such as soybeans. The latter crop is not a host plant to witchweed and intensive cultivation of soybeans in the infested acreage would reduce the witchweed population.

Soybeans are known as a "trap crop" for the witchweed plant germ. Soybeans are said to cause a rapid development of the witchweed seed and cause it to leave the sub-surface and break above ground. When that condition occurs, the application of 2,4-D will act to wipe out a witchweed generation.

This fact does not mean to reduce the grave danger of the witchweed to the commercial corn crop. On the contrary, it is seen as most hazardous to corn. But it is emphasized that USDA officials, with full knowledge of these hazards, are taking the most practical and scientific view of how this problem can be handled.

The basic prognosis of USDA officials is that the witchweed will live for years underground and then erupt in serious numbers. They say that it is now urgent that the life cycle of witchweed should be accelerated through other than host plants such as corn, through the introduction of soybean rotation which is not a host plant and when that condition occurs, the use of 2,4-D will kill the plant.

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E. G. Muir

Du Pont Announces Management Changes

WILMINGTON, DEL.—The retirement of Dr. J. A. Almquist as assistant general manager of Du Pont's Polychemicals Department resulted in a series of three high-level management changes in the company Feb. 1.

Walter H. Salzenberg, assistant general manager of the Grasselli Chemicals Department, succeeded Dr. Almquist in the Polychemicals Department.

Dr. Wallace E. Gordon, director of Du Pont's Advertising Department, succeeded Mr. Salzenberg in the Grasselli Department.

Frederic A. C. Wardenburg, director of sales for the Pigments Department, became director of the Advertising Department.

Dr. Almquist, who elected to retire at the age of 60, has had a long career in research and management. He studied at the University of Idaho, from which he received a bachelor of science degree in 1919,

and the University of California, from which he received his doctorate in physical chemistry in 1922.

Mr. Salzenberg had been in engineering and research work until he became assistant general manager of the Grasselli Chemicals Department in 1951. He attended Lehigh University, graduating in 1929 with a chemical engineering degree.

Dr. Gordon became director of the Advertising Department in 1955 following a career of more than 20 years in research and sales. He was graduated from Detroit City College (now Wayne University) with a bachelor of arts degree in 1927. After two years of teaching chemistry and mathematics he entered the University of Michigan, from which he received his doctorate in organic chemistry in 1933.

Mr. Wardenburg has been engaged in engineering, financial and sales work. He attended Princeton University from which he was graduated with a bachelor of science degree in mechanical engineering in 1927.

Tree Planting Gets Push from Soil Bank

WASHINGTON—Tree planting under the soil bank conservation reserve program is getting its biggest impetus since the days of the Civilian Conservation Corps, the U.S. Department of Agriculture said recently.

With states expanding their tree nurseries and arranging with privately-owned nurseries to increase output, nursery seedling production for the soil bank program will total 5 billion.

Correction

Croplife's issue of Jan. 14, 1957 carried an article entitled "Fertilizer Manufacturer Says Change to Elemental Guarantees Places the Industry in Bad Light with Customers," authored by an officer of Kingsbury & Co., Indianapolis, Ind. The writer's name was listed as E. D. Kingsbury, whereas it should have been G. H. Kingsbury. Our apologies to both of these Kingsburys, father and son.

E. G. Muir to Head Bemis Sales Section

ST. LOUIS—E. G. Muir, sales manager for the Omaha sales division of Bemis Bro. Bag Co., has been named to head a newly designated sales development section of the company's general sales department in St. Louis. Announcement was made by H. V. Lowes, vice president and director of sales, to whom Mr. Muir will report. Mr. Muir will supervise Bemis sales management methods and procedures, advertising and publicity, trade extension, and sales personnel selection and training. He joined the Bemis organization in 1949 as a salesman at Omaha, and was made an administrative assistant there in 1951. He was named sales manager in 1953.

Monsanto Records Best Safety Year

ST. LOUIS—Monsanto Chemical Company's safety record during 1956 was the best in its history, George L. Gorbett, safety and fire protection manager, has announced. The company's 1956 accident frequency rate of .95 major injury per million manhours worked was a 27% improvement over the 1955 rate of 1.31.

There were no fatal accidents on the job among Monsanto's more than 19,000 employees during 1956 and the company's accident severity rate for the year showed an 87% decrease from 1955.

Three Monsanto facilities, each of which operated without a major accident during 1956, were named as president's trophy winners in their respective groups in the annual safety contest sponsored by the company.

The winners were: Group I, Everett (Mass.) plant, with 3,470,369 safe manhours worked; Group II, Shawinigan resins plant, Springfield, Mass., 1,482,935 manhours; and Group III, the research laboratory at El Dorado, Ark., 260,909 manhours.

Monsanto's El Dorado chemical plant currently holds the record for the greatest number of manhours—1,454,632—operated without a major injury.

PINE SAWFLY

ST. PAUL, MINN.—University of Minnesota entomologists have learned an important reason why the imported pine sawfly damages white pine trees more than other evergreens. The reason seems to be that the female sawfly prefers the white pine for laying her eggs and the sawfly young have a better chance of surviving on the white pine than on most other trees, says A. C. Hodson, university entomologist. This research shows that, in general, foresters don't need to worry about the imported pine sawfly carrying any great damage to trees other than white pine in Minnesota.

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Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

GREATER FERTILIZER OUTPUT . . .

Will New Plants Broaden Fertilizer Sales?

It's not overproduction, it's underconsumption. That is the general consensus of the fertilizer industry as it views its plant capacity, particularly for nitrogen production, which seems to be in excess of the probable demand for plant food during the coming season.

This situation, of course, is true in many parts of the country, but in California the picture appears to be particularly puzzling. In spite of an existing plant capacity capable of producing far more fertilizer materials than are being used currently, plans are reportedly under way by additional groups for the erection of still more manufacturing facilities. We can't help wondering what effect this might have on the industry's future prospects.

It could bring about a less firm price situation. Or, it might have the effect of stimulating greater sales efforts, with added emphasis on service, on the part of the existing firms.

An article in the "California Farmer" of recent date made some rather astute comments on the value of fertilizers, pointing out how the fertilizer industry has carried out plant expansion until "we have the capacity to double our production of fertilizer. The plant capacity is there waiting, straining at the leash. All we need is new customers," it observes.

The article asks, "did someone get carried away and build plants all over the state just to hear the clang of the hammers? No; actually, the people in the fertilizer business know what they are doing."

The paper then launched into as nice a sales talk as we have heard for a long time . . . and we thought it would be helpful at this point to repeat some of the good advice thus given to its farmer readers.

"Farmers in this State (California) are using less than half the amount of fertilizer they should use," the article says. "Actually, very few farmers do a scientific job of using fertilizer, but those that do have a tremendous economic advantage over their neighbors who do not."

"There are probably 40,000 farms in this state that are not even using fertilizer. Money, water, fertilizer, certified seed—these are all farm "tools" but next to water we think that fertilizer has the biggest potential to greatly increase the net profits of the farm or ranch."

"Used correctly, fertilizer pays handsome returns. One time we asked a farmer friend who had been fantastically successful, to what he attributed his success in farming. His answer was very simple, 'To be 10% better than average.' In lots of instances the correct use of fertilizer would make that 10% difference."

California growers were advised to "make sure you're getting the most out of your land. Make sure you're getting the highest yields possible per unit of land or livestock." It adds that there are instances where farmers could pay three times the price now asked for fertilizer and still make money from the use of plant food. "But the fortunate thing is that the fertilizer industry can be especially proud of the way they have kept prices down."

"Fertilizer at this moment is a tremendous bargain . . . the price to the farmer is about as low as a well-established firm with adequate distribution and field service can go without getting into a price war to determine the survival of the fittest."

"Fertilizer plant capacity is doubled. Farmers should move in on that supply this very year."

California could have a \$3 billion agricultural income next year if it did a maximum job with fertilizer.

"Our only advice is to get lots of advice. Deal with reputable people, get and demand field service. Use fertilizer as a farm tool."

And there you have it. The advice given by this paper is applicable not only to California's agriculture, but to most other areas as well. Maybe the added plant capacity being planned for California will have the effect of increasing sales efforts to reach some of those 40,000 farms which are reported to be non-users of fertilizers, and to educate present users on the favorable economics involved in greater application of plant food materials.

Fertilizer Trade Hardest Hit By TVA Activities

That TVA's hydro-electric activities cannot be viewed as affecting only the private power companies, was pointed out in a recent bulletin from the Chamber of Commerce of the United States. "There are definite and determinable losses to many other segments of the business community," it continues. "TVA is an outstanding example of a disregard for the principles of government-business relationships upon which our free enterprise system depends."

Businesses affected badly by government-run enterprises and particularly TVA, include insurance companies, the coal industry, transportation, and natural gas. But probably the industry hardest hit by TVA is the fertilizer trade.

While this phase of its activities have been recounted here in times past, it would be well to recall the observation of Senator Robertson of Virginia, who said: "The TVA is now selling to farmers thousands of tons of fertilizer at 45% of what it costs private manufacturers to produce it." Although TVA maintains that sales of its fertilizer materials are not on a commercial basis, but are part of an "educational program," total sales run around \$20 million a year. And the TVA continues to ask Congress for new funds to expand its operations!

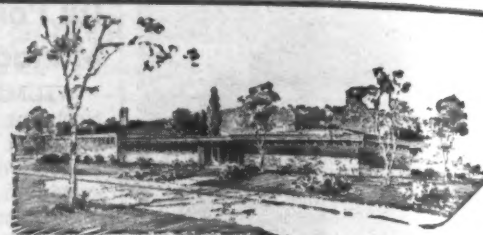
Weed Control a Must

A plea to growers to place more emphasis on weed control was sent out by the U.S. Department of Agriculture in a statement last week. Reminding that weeds cost the farmers of America some \$5 billion a year, the USDA points out that it is no longer necessary to allow such destruction on farm lands. "Surprisingly, it is only in the last decade or two that we have been able to work up an effective organized effort against this age-old enemy," the statement declares.

The advent of 2,4-D, it says, gave us the first glimpse of the weed-control revolution that has swept our farms. Since then, additional materials and methods for weed control have come into being, but it is necessary to find the most efficient area of use for all the tools of weed control. "There is a place in research for tillage measures, management, and cropping practices as well as chemical herbicides," the article says.

As a new season approaches, the important role to be played by chemical herbicides should be emphasized through widespread publicity, so that farmers in every state will become even more conscious not only of the economic menace of weeds, but also of the ease with which these unwanted plants may be reduced to a minimum.

There is a good story to tell all farmers everywhere about how expensive it is to allow weeds to rob farmlands of moisture and nutrition, when it is possible to get of them.



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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DONALD NETH

Managing Editor

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MEETING MEMOS

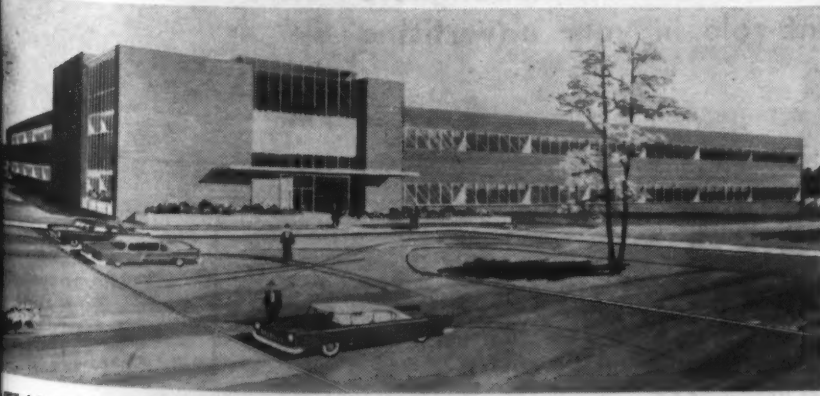
Feb. 19-20—Chemical Market Research Assn., Sheraton Hotel, Philadelphia.
Feb. 24-26—Texas Agricultural Aviation Conference and Short Course on Pest Control, Texas A&M College, College Station, Texas.
Feb. 26—Kansas Pesticide Dealer and Custom Applicator Conference, Kansas State College, Manhattan, Kansas.
March 14-15—Oregon Feed & Seed Dealers Assn., Annual Meeting, Multnomah Hotel, Portland, Ore.; March 14 Morning Program Set Aside for Fertilizer Topics.
Feb. 11-13—Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

EDITOR'S NOTE—The listings above are appearing in this column for the first time this week.

Feb. 4-6—Association of Southern Agricultural Workers, Hotel Dinkler-Tutwiler, Birmingham, Ala.
Feb. 4-6—Cotton States Branch, Entomological Society of America, Birmingham, Ala. W. G. Eden, secretary-treasurer, Alabama Polytechnic Institute, Auburn, Ala.
Feb. 12-15—Maryland Agricultural Chemical Conferences; Episcopal Parish Hall, LaPlata, Feb. 12; County Bldg., Easton, Feb. 13; Francis Scott Key Hotel, Frederick, Feb. 15; Sponsored by the University of Maryland.
Feb. 13-15—Midwestern Chapter, National Shade Tree Conference, Pfister Hotel, Milwaukee; N. B. Wysock, 536 N. Harlem Ave., River Forest, Ill., secretary-treasurer.
Feb. 14-15—Middle West Soil Improvement Committee, Edgewater Beach Hotel, Chicago. Zenas H. Beers, 228 N. LaSalle St., Chicago, executive secretary.
Feb. 17-19—New York Garden Supply Show, New York Coliseum.
Feb. 19-20—Alabama Pest Control Conference and First Annual Meeting of the Alabama Association for the Control of Economic Pests, Auburn, Ala., W. G. Eden, Alabama Polytechnic Institute, Auburn, secretary-treasurer.
March 4-5—Fertilizer Section, Southern Safety Conference, Hotel John Marshall, Richmond, Va. Quentin S. Lee, Cotton Producers' Assn., Atlanta, Ga., general chairman.
March 5-6—Western Cotton Produc-

tion Conference, Hotel Westward Ho, Phoenix, Ariz.
March 6-8—National Agricultural Chemicals Assn., Spring Meeting, Fairmont Hotel, San Francisco, L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.
March 11-12—Southwestern Branch, Entomological Society of America, Annual Meeting, Gunter Hotel, San Antonio, Sherman W. Clark, 811 Rusk Ave., Houston 2, Texas, Secretary-Treasurer.
March 27-29—North Central Branch of Entomological Society of America, Annual Meeting, Des Moines, Iowa.
April 2—Western Agricultural Chemicals Assn.; Spring Meeting, Hotel Biltmore, Los Angeles, Cal.; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.
April 14-15—Fifth Annual California Fertilizer Conference, Fresno State College, Fresno, Cal. Sponsored by California Fertilizer Assn., Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.
June 9-12—National Plant Food Institute, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.
June 17-19—Fifteenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Dinkler-Tutwiler Hotel, Birmingham, Ala., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.
June 23-26—American Society of Agricultural Engineers, Golden Anniversary meeting, Michigan State University, East Lansing, Mich.
June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Wash., chairman.
July 10-14—Plant Food Producers of Eastern Canada, Manoir Richelieu, Murray Bay, Quebec.
July 17-19—Southwestern Fertilizer Conference and Grade Hearing, Galvez Hotel, Galveston, Texas.
Oct. 2-4—Eleventh annual Beltwide Cotton Mechanization Conference, Shreveport, La.

HORTICULTURAL GROUP TO MEET
CONCORD, N.H.—The 63rd annual meeting of the New Hampshire Horticultural Society will be held at the Highway Hotel here Feb. 5-7.



ATLAS TECHNICAL CENTER—Shown above is the architect's drawing of the \$3,000,000 Atlas Powder Co. technical center, for which ground was broken on Jan. 17. The center, located next to the company's general offices in suburban Wilmington, Del., will house the Atlas chemical research and product development departments. J. Caleb Boggs, Delaware's governor, removed the first spadeful of earth to mark the start of the project, with Ralph K. Gottshall, Atlas president, using a pick-ax to assist. The technical center will provide facilities for work across the entire range of applications served by Atlas products, including sorbitol, emulsifiers, detergents, polyester resins, activated carbons and explosives.



AGRONOMIST APPOINTED—Dr. Joseph D. Campbell has been appointed agronomist for the north central district of the plant food division, Olin Mathieson Corp., it has been announced by S. Y. Roth, district manager. Dr. Campbell's headquarters will be in Omaha. He has been with the firm since 1953, with headquarters at Baltimore, Md. Dr. Campbell received his Ph.D. at Michigan State University.

AAI to Hold 1957 Meeting in Little Rock

LITTLE ROCK—The Agricultural Ammonia Institute will hold its seventh annual national convention here Dec. 11-13, with more than 1,000 manufacturers, distributors and dealers in anhydrous ammonia and farm implements expected to attend. Forty states will be represented, in addition to Canada, Mexico, Cuba and Puerto Rico.
Hampton Pugh, cotton planter and fertilizer dealer from Tillar, Ark., who retired last year as a director of the institute, will be convention chairman.
The Hotel Marion will be convention headquarters, but major sessions will be held at nearby Robinson Auditorium, with seating capacity of 3,000 in its main assembly hall, plus other smaller meeting rooms.
The executive committee of the institute met in Little Rock recently to complete plans and arrangements for the convention.

INDEX OF ADVERTISERS

Adams & Doyle Eqp. Mfg. Co.	21	Kraft Bag Corp.	4
African Pyrethrum Development Co.		Meredith Publishing	29
Allied Chemical & Dye Corp., Nitrogen Division		Miller Publishing Co., The	27
American Potash & Chemical Corp.		Mineral & Chemical Corp.	27
American Potash Institute		Mississippi River Chemical Co.	
Anco Manufacturing & Supply Co.		Monsanto Chemical Co.	16, 17, 23
Armour Fertilizer Works	21	National Potash Co.	
Ashcraft-Wilkinson Co.	7	Naugatuck Chemical Div., U. S. Rubber Co.	
Atkins, Kroll & Co.		Niagara Chemical Division, Food Machinery & Chemical Corp.	
Baughman Manufacturing Co., Inc.		Nitroform Agricultural Chemical, Inc.	12
Beard, J. B., Co.	28	Nitrogen Div., Allied Chemical & Dye Corporation	
Bemis Bro. Bag Co.	14	Olin Mathieson Chemical Corp.	19
Blue, John, Co.	8	Pacific Coast Borax Co.	
Bonneville, Ltd.	24	Penick, S. B., & Co.	6
Bradley & Baker		Phillips Chemical Co.	26
Broyhill Company		Potash Company of America	24
Butler Manufacturing Co.		Private Brands, Inc.	24
Chase Bag Co.	12	Shell Chemical Corp.	
Commercial Solvents Corp.	5	Sinclair Chemicals, Inc.	2
Davison Chemical Co.		Smith-Rowland Co., Inc.	
Deere & Co., Grand River Chem. Div.		Sohio Chemical Co.	25
Dow Chemical Co.		Spencer Chemical Co.	15
E. I. du Pont de Nemours & Co., Inc.		Spraying Systems Co.	
Eastern States Chemical Corp.		Stauffer Chemical Co.	
Flint Steel Corporation		Stewart-Warner Corp.	
Gates Rubber Co.		Successful Farming	29
Grand River Chemical Div. of Deere & Co.		Tennessee Corp.	
Hahn, Inc.		Union Bag-Camp Paper Corp.	
Henderson Mfg. Co.	18	U. S. Phosphoric Products Division	
Hercules Powder Co.	11	U. S. Potash Co.	
Hough, Frank H., Co.	10	U. S. Rubber Co., Naugatuck Chem. Div. .	
Hypro Engineering Co.		U. S. Steel Corp.	
Industrial Fumigant Co.	3	Velsicol Chemical Corp.	9
International Minerals & Chemical Corp.		Virginia-Carolina Chemical Corp.	
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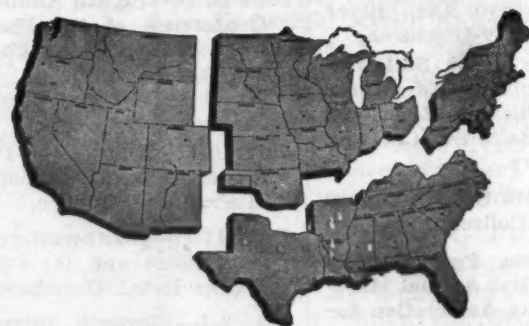
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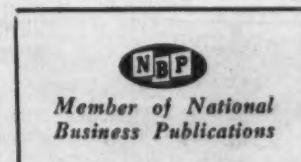


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